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ABSTRACT

This document reports on the activities and achievements of a federally supported project in Arizona to provide inservice early childhood personnel with the necessary competencies and strategies to facilitate the inclusion of assistive technology for young children with disabilities. The 5-year project focused on three major assistive technology components: adaptive play, computers, and augmentative communication devices. The project relied upon an inter-agency, inter-network design to develop and field test a personnel training model that focused on the formulation and implementation of interdisciplinary partnerships. Major project activities included: (1) inservice training of interdisciplinary personnel teams; (2) independent replication of assistive technology methods and procedures by trained personnel teams; and (3) development, field-testing, and dissemination of training materials. Over 150 early childhood personnel participated in some form of project activities. Project evaluation indicated that on-site technical assistance was more beneficial in helping participants implement the ideas presented in the training sessions than were follow-up workshops. Individual sections of the report describe project activities, project evaluation methods, and project findings. Eight appendices present project evaluation data and comprise the bulk of the document. (Contains 24 references.) (DB)

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ED 449 604

ASSISTIVE TECHNOLOGY TRAINING FOR EARLY CHILDHOOD PERSONNEL

FINAL REPORT

Special Projects CFDA 84.029K
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Project Period: 8/1/94 through 7/31/00

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SUMMARY

The primary purpose of this project was to provide inservice early childhood personnel with competencies and strategies necessary to facilitate the inclusion of assistive technology across the early childhood curriculum. In 1990 Congress incorporated definitions of assistive technology devices and services into the Individual with Disabilities Education Act (IDEA). In 1992, final federal regulations made clear the obligation of school districts and early childhood personnel with respect to provision of necessary assistive technology services and devices as needed for young children with disabilities to receive a free, appropriate public education (FAPE). While policy in this regard is now firmly in place, a major barrier to implementation of newly defined policy is a lack of personnel who possess the necessary knowledge and skills regarding the selection and use of assistive technology. This project was designed to directly address this barrier, for interdisciplinary early childhood personnel at the inservice level. Three major assistive technology components served serve as the focus of training efforts including adaptive play, computers, and augmentative communication devices.

The project relied upon an inter-agency, inter-network design in order to develop and field-test a personnel training model that focused on the successful formulation and implementation of interdisciplinary partnerships in order to achieve integration of assistive technology across the early childhood curriculum. Three major activities were undertaken to achieve this purpose including (a) inservice training of interdisciplinary personnel teams including early childhood special educators, speech-language pathologists, physical and occupational therapists, administrators, and early childhood educators, (b) independent replication of assistive technology methods and procedures by trained personnel teams, and (c) development, filed-testing, and dissemination of

"packages" of training materials. Over the course of the five-year project over 150 interdisciplinary early childhood personnel (including speech-language pathologists, physical and occupational therapists, early childhood special educators, and early childhood educators or child development specialists) participated in some form of project activities. Project efforts begin with "job-embedded" training of local personnel teams. Through an independent replication/evaluation/revision process training activities were systematically extended to statewide and regional personnel teams.

Project evaluation activities indicated that participants found the training worthwhile and reported that they acquired valuable information relating to the use of assistive technology in the classroom with young children. Importantly, it appears that the use of on-site technical assistance was considered an effective strategy in assisting participants in understanding and implementing the ideas presented in the training sessions. Although participants in the workshop only phase of the project benefitted from the information presented, they reported difficulty in subsequent implementation activities. While they found follow-up workshops helpful, they overwhelmingly indicated a preference for on-site technical assistance. It was concluded that the on-site "job embedded" approach was the most successful training model, resulting in enduring changes in participants' classrooms.

The primary purpose of this project was to provide inservice early childhood personnel with competencies and strategies necessary to facilitate the inclusion of assistive technology across the early childhood curriculum. In 1990, Congress incorporated definitions of assistive technology devices and services into the Individual with Disabilities Education Act (IDEA). In 1992, final federal regulations made clear the obligation of school districts and early childhood personnel with respect to provision of necessary assistive technology services and devices as needed for young children with disabilities to receive a free, appropriate public education (FAPE). While policy in this regard is now firmly in place, a major barrier to implementation of newly defined policy is a lack of personnel who possess the necessary knowledge and skills regarding the selection and use of assistive technology. This project was designed to directly address this barrier, for interdisciplinary early childhood personnel. Three major assistive technology components served as a focus of the training efforts including adaptive play, computers, and augmentative communication devices. The training activities were conceptualized in terms of three key personnel functions including (a) development and implementation of assistive technology plans for young children with disabilities, (b) performing roles and responsibilities as a member of an early assistive technology programming team, and (c) independent replication of assistive technology integration in early childhood classrooms.

The philosophy underlying the early assistive technology training program can be summarized in terms of five key issues. First, quality training must be competency-based and include ample opportunities for experiential, hands-on learning as well as the more traditional didactic instruction. Second, training must include provisions for individualized implementation that is directly linked to an individual's existing roles and responsibilities (i.e., "job-embedded" training).

training). Third, training must include provisions for ongoing support of newly acquired skills that focus in sharing information with others, identification of problems, and generation of solutions. Fourth, assistive technology devices and services must not be conceptualized or presented as separate from the early childhood curricula; rather, they must be fully integrated into ongoing goals and classroom activities. Fifth, training must have a focus not only on specific professional skills needed to facilitate integration of assistive technology across the early childhood curriculum, but also on the interdisciplinary teaming process with a strong focus on the formation of effective partnerships.

PROJECT ACTIVITIES

Training of Interdisciplinary Teams

This training program used the components of a "job-embedded" approach and combined opportunities for practice and feedback, emphasized on-site activities, and addressed individual concerns. In the regional and national dissemination phase, this experiential, "hands-on" base was maintained through the use of the case method instruction. This approach taught the application of skills, bridged the gap between theory and practice, provided an opportunity to practice inter-personal communication abilities through role-playing, and enhanced problem-solving abilities. An important component of the project training efforts was the focus on the interdisciplinary teaming process and the formulation of effective partnerships between families, related services personnel, early childhood educators, and early childhood special educators.

Inservice Training Methods and Sequence: Local and Statewide Teams

The first phase of the local and statewide training focused on establishing an interdisciplinary "expert" team, capable of providing resources and consultation to future personnel as needed. Training methods included a combination of didactic instruction (lectures),

case study procedures, self-study assessments, actual development of IEP's for targeted children, and ongoing "coaching" and technical assistance. An important component of the local and statewide inservice training methods included (a) the establishment of a loaning library of various devices and resource materials and (b) a series of "make-it, take-it" workshops. Each team participated for a two-year period. During a given team's first year of participation, the interdisciplinary personnel attended a three-day inservice training institute held immediately prior to the start of the school year. During this institute, basic information corresponding to the development and implementation of early assistive technology devices and services was provided through lectures, "hands-on" experiences, and presentation of case studies. Project staff monitored and assisted in the implementation of plans throughout the school year through (a) on-site "coaching" and demonstrations, (b) monthly team meetings, and (c) four additional one-day inservice training workshops scheduled over the course of the school year. During the second year of participation, trained teams attended an inservice prior to the start of the school year, with the focus on replication of early assistive technology procedures across the early childhood curriculum. Sequences for the completion of activities associated with the replication efforts was determined and project staff monitored and assisted (as necessary) in the implementation of plans.

Inservice Training Methods and Sequence: Regional and National Teams

During the fourth and fifth years of the project, national interdisciplinary personnel teams were trained through a workshop/technical assistance format. Each team attended an initial two-day inservice during which basic information corresponding to the development and implementation of early assistive technology devices and services was provided through lectures,

"hands-on" experiences, and presentation of case studies. Throughout the school year, two one-day inservice sessions were attended.

PROJECT EVALUATION METHODS

Evaluation activities focused on three major areas: (a) effectiveness of training, (b) project impact, and (c) a special evaluation study.

Effectiveness of Training

Personnel evaluated training effectiveness with respect to the acquisition of program competencies and associated skills. The primary instructional methods included (a) direct training by project staff and (b) use of sets of developed instructional materials. Data sources for determining acquisition of competencies and skills in each of these instructional methods included personnel self-evaluation of acquired competencies and interdisciplinary team functioning and workshop evaluation summaries.

Project Impact

Overall project impact was determined with measures focusing on (a) participating personnel, (b) children targeted for early assistive technology plans, and (c) families of children targeted for early assistive technology plans.

Personnel. Overall personnel impact was determined through summaries of self-evaluations of acquisitions of competencies, personnel satisfaction measures, and comparison of initial, mid, and year-end Program Quality Indicator Observations. Project activities were considered to have had sufficient impact on targeted personnel when all categories of the Quality Indicator Checklist score above 80% on the final rating in the project year.

Children. The impact of the project on children in the classes of participating personnel was assessed across the total group of children with disabilities across all target sites, groups of

children at a given site, and on children individually. Impact on the total group was determined by final scores on the Program Quality Indicator Checklist and by overall perceptions of children's progress by their parents and interdisciplinary personnel teams. Summaries of the Checklist data across all participating sites served as the data source for evaluating impact on the children as a group. Family and staff perceptions of the children's progress were determined in a questionnaire format.

Families. The impact of the project activities on families of children targeted for the early assistive technology training project was determined by administration of a questionnaire.

Special Evaluation Study

The purpose of this study was to assess the overall effectiveness of the developed sets of instructional materials as well as the relative effectiveness of the project training components with respect to: (a) personnel acquisition of competencies and associated skills, (b) individual program impact as measured by the Program Quality Indicators, and (c) family and child outcomes. In particular, this special study examined the relationship between achievement of desired results in each of the above areas and the type of personnel training that was provided. The study corresponds to the plan for replicating the early assistive technology training procedures and field-testing the sets of instructional materials. This information assisted in determining the effectiveness of the training materials themselves as well as the extent to which additional training and/or on-site technical assistance increased the extent of positive outcomes. It is anticipated that the results of the study will yield information that will be extremely useful for future personnel training efforts and ongoing replication of early assistive technology training procedures following the conclusion of the project.

PROJECT FINDINGS

General Description

This grant consisted of a five-year project through the following years: 1994-95, 1995-96, 1996-97, 1997-98, and 1998-99 plus a one-year no cost extension to finish development of project products. Fourteen different school districts across four different states participated in this project. The year 1994-95 was a development year in terms of refining the training and developing the workshops and materials used throughout the grant. Therefore, some data is not available for this year. In addition, as the project staff refined their skills and the project focus changed from workshops and on-site assistance to workshops only, some measurements were not used in each year or the measurements were revised. Measurements are typically divided into two separate categories: (a) those years in which classroom teams participated in both workshops and on-site technical assistance (1994-95, 1995-96, and 1996-97) and (b) those years in which classroom teams participated in workshops only (1997-98, 1998-99).

Self-Evaluation of Skills and Knowledge

Participants conducted self-assessments during each of the last four years of the grant (1995-96, 1996-97, 1997-98, and 1998-99). The assessment was done at the beginning of the training and again at the end of the training. Classroom team members initially evaluated their skills, knowledge, and competencies in the areas the training addressed and then to the degree with which they acquired these skills and knowledge. The eight areas assessed included the following:

- early assistive technology components (understanding of adaptive play, augmentative communication, computer hardware and software)
- developmentally appropriate practices

- quality indicators (relating to family-centered services, curriculum content, social interactions)
- curriculum components (integrating assistive technology into all classroom activities across the curriculum such as circle time, outside play, and music)
- early assistive technology needs assessment
- individual assistive technology plan
- teaming process
- independent replication of assistive technology plans in an early childhood program.

Results indicate that participants across all disciplines felt that they gained more knowledge and experience in the area of assistive technology. It appears that those individuals who indicated in the pre-training survey that they had little or no prior knowledge of assistive technology (i.e., indicated scores of 1 or 2), gained a great deal of experience as their scores increased to feeling more competent on the post-training survey (i.e., scores of 3 and 4). In addition, participants indicated that they gained knowledge and experience in other areas that the training addressed such as developmentally appropriate practice and teaming. Please refer to Appendix A for a summary of the Self-Evaluation of Skills and Knowledge by category and by profession.

Personnel Satisfaction with Training

Participants completed this form at the final workshop they attended during the year they participated in the project. As can be seen in Appendix B, the data is presented in two categories: (a) project years in which participants participated in both workshops and on-site training (1994-95, 1995-96, 1996-97); and (b) project years in which participants participated in only

workshops (1997-98 and 1998-99). Overall, participants agreed that they were satisfied with the training they received irrespective of the location (e.g., on- or off-site)

During the first three years of the project, participants agreed that the workshops and on-site training were effective in (a) helping their team work together successfully, (b) helping develop comprehensive assistive technology integration plans, and (c) implement developmentally appropriate practices. It was agreed that the project staff were able to work effectively with the classroom teams in response to their needs. In addition, it appears that the project staff responded to the feedback that was given by the participants and refined the training materials.

Two areas appear to be have been relatively unsatisfactory in comparison during the workshop and on-site training years of the project. These included the effectiveness of the training in (a) including parents as key members of the classroom team and (b) helping the classroom team implement appropriate positive behavior management strategies. In particular, the classroom teams commented that they would have liked more parent involvement before, during, and after the project staff participated in their classrooms. Suggestions included having project staff conduct parent workshops and home visits, prepare a newsletter, and provide more suggestions and strategies on how to incorporate parents into the assistive technology process in their classrooms. Participants also commented on the overwhelming amount of information presented and the time commitment in attending the workshops that took them away from their students. The lack of support from their school district administration and the inability to have all of their classroom team participate in the training process were barriers the participants identified with the successful implementation of assistive technology. The classroom teams indicated that they gained a great deal of valuable knowledge. In particular, they noted that the on-site training

visits and hands-on experiences in the workshops were excellent methods of learning the new information. Several participants noted that it was helpful to learn the information in the workshop but then to have the project team demonstrate or apply the newly learned skill in their classroom the next week. It was reported that the on-site training visit helped then to "stay focused" and to utilize the information.

During the years of the project when classroom teams participated in workshops only, overall satisfaction with the training was relatively the same as the prior three project years in which participants additionally received on-site trainings. However, when asked if the training would have been more effective if the trainers had been able to observe their classroom, participants agreed. In addition, they commented that classroom visits would have provided feedback on their use of assistive technology. This appears to be related to the areas in which participants showed less satisfaction with the training such as the training effectiveness in helping the teams develop Comprehensive Technology Support Plans for specific students and adapting the team's curriculum to meet the needs of individual children using assistive technology. As in the three previous years of the project, participants reported that they would have liked to have more parent involvement as well as more team members attend the training.

Workshop Evaluation Summary

During the workshop and on-site technical assistance phase of the grant, for the years 1994-95, 1995-96, and 1996-97, participants participated in five workshops scheduled throughout the school year. They consisted of the following:

- an initial three-day workshop consisting of an introduction to assistive technology for early childhood classrooms
- a one-day workshop on augmentative and alternative communication devices

- a one-day workshop on switches
- a one-day workshop on literacy/low vision issues, and
- a half-day workshop regarding grant replication.

During the workshop only phase of the grant for the years 1997-98 and 1998-99, classroom teams participated in an initial two-day workshop, and then two subsequent one-day workshops spaced through the school year. The topics covered included those presented in the previous years of the grant, but in a more abbreviated period of time. Please refer to Appendix C for a summary of the Workshop Evaluations.

Project staff broadened their knowledge bases substantially during the first development year of the project (1994-95). Although participants indicated that the workshops were effective, informative, and the presenters were easily approachable, several comments and suggestions were made that sparked changes in subsequent years. Project staff participated in adult training workshops themselves to develop teaching strategies and methods of designing workshops that would be more effective for adults. Methods used in the following years included some of the following: demonstration, group discussion, guided learning, observation, and visual backup. In addition, the workshop evaluation form was revised to provide more appropriate feedback.

In general, participants during the first year of the project indicated that they learned a great deal about assistive technology and enjoyed the hands-on and "make-it/take-it" activities during the workshops. They reported that they felt overwhelmed by the amount of information and wished that parents and other team members could have attended the workshops.

During the project years 1995-96 and 1996-97, classroom teams participated in both workshops and on-site training. As in the previous year, participants commented that the hands-on training was a particularly important and valuable part of the workshops. Workshop activities

that allowed them to immediately take the information back into their classrooms and use it were often listed as the most successful. These included activities such as designing and making a symbol snack placemat, making a switch and/or battery interrupter, deciding on appropriate vocabulary for a story and programming it onto a voice output device, and receiving handouts of "ready-made" device overlays and symbols. Participants commented on the following as areas of need throughout the workshops. First, have other team members (e.g., assistants, administrators) attend the workshops. Second, use video of early childhood classrooms to demonstrate the incorporation of assistive technology into their curriculum. Finally, allow participants to spend time together during the workshop to brainstorm and apply the information presented to particular children or activities in their classrooms. Comments related to areas and concepts that participants did not understand were typically addressed in future workshops. For example, following the initial workshop participants commented that they did not fully understand concepts such as adaptive play. This topic was covered in more detail in a full day workshop later that year. In addition, the on-site training visits served as a time to clarify classroom team members' questions and uncertainty in using the knowledge learned in the workshops.

Staff Perceptions of Child Progress

Classroom teams completed a scale in which they rated progress of targeted (i.e., those requiring assistive technology) children in their classes during the years 1995-96 and 1996-97. Children were not targeted in the remaining project years as no on-site training was conducted. Please refer to Appendix D for a summary of this information. Overall, participants reported fair to good progress for the children targeted during the project. Relative strengths appeared to be in the areas of how well the typical children responded to the use of assistive technology in the classroom, the usefulness of assistive technology on the child's progress, and the educational

development of the child. The classroom teams indicated that the children made significant improvements in areas such as communication, articulation, language, and overall development. The lack of parent involvement or assistance in incorporating parents in the assistive technology process was indicated as an area of need for the classroom teams. Participants reported poor to fair incorporation of assistive technology into home activities.

Parent Perceptions of Child Progress

Parents/caregivers also rated progress for their children targeted during the project for the years 1995-96 and 1996-97. Please refer to Appendix E for a summary of this information. Overall, parents indicated fair to good progress for the children during the project year. Scores of good to excellent were reported in the following areas:

- the parents' understanding of assistive technology as it benefits their child
- how useful assistive technology has been to their child's progress
- the social interaction with other family members

Comments made by parents indicated that their children had made progress and that assistive technology had been a factor in that progress. In addition, they noted that the project was helpful to both the classroom staff and themselves. Areas of need were reported to be the level of frustration for the child/parent, parents who did not believe that assistive technology was appropriate for their child, and parents who did not feel that their child's progress was attributable to assistive technology.

Quality Indicators

The purpose of the Quality Indicators checklist was to provide program and classroom personnel with objective information concerning the effectiveness of classroom-based programming and activities. Through observations of typical classroom activities, project staff

and classroom teams were able to identify strong activities as well as those that required attention. The classroom activities/areas included the following: entering/leaving, opening/closing, small group activities, large group activities, transitions, snack, toileting, children who require adult assistance, and items not observed on the videotape. The observational information was reorganized to provide information about areas of best practice. The areas included family-centered services, social integration, child outcomes, management of behavior, curriculum content, planning, instructional integration, facilitating strategies, physical environment, and assistive technology. The information gained through the classroom observations served as an objective base from which project staff and classroom teams targeted specific classroom activities or best practice areas in need of change. Subsequent observations provided data concerning changes in classroom activities or best practice indicators and allowed both project staff and classroom teams to judge the effectiveness of changes or to identify additional areas requiring modifications. A particular day was chosen for the observation and the project staff videotaped the classroom activities. The project staff and the team then viewed this videotape individually. The checklists were then reviewed during a discussion. A plan of action was then set forth in which areas requiring attention were targeted and both project staff and classroom teams developed an action plan to further develop these areas. Please refer to Appendix F for a more detailed description of the rationale for using the Quality Indicators, an overview of the categorical practice areas including suggestions for optimal implementation, information regarding conducting the observations including the scoring system, and a copy of the Quality Indicators checklist.

The Quality Indicators checklist was completed for the years 1994-95 and 1995-96. A summary of this information can be found in Appendix G. As can be viewed from the data, project staff typically gave a lower percentage to each area observed than did the classroom team. Perhaps this is due to a more objective view of an outside observer. Additionally, it may be related to limited observations of project staff versus the day-to-day experiences of the classroom team. For example, although project staff may not have observed a classroom team member prompting a peer to request materials from children with disabilities during free play activities on the videotape, classroom team members may have seen these behaviors on other occasions. Increases in percentages were noted in all categories between the beginning of the project and the end of the project. It appears that classroom teams were indeed taking the information from the workshops and integrating it into their classroom activities with the assistance of the project staff. Best practice areas that the project targeted more intensely, such as assistive technology and social integration, appeared to make the most significant changes during the course of the year for a classroom team. Similarly, the classroom activities targeted and presented during workshops, such as opening/closing, small and large group activities, and snack, showed a more significant improvement. However, both project staff and classroom teams found the Quality Indicators checklist time-consuming and the videotaping intrusive. As noted on workshops evaluation forms, some classroom teams indicated that they were familiar with best practices and were interested in more information specifically related to assistive technology. Therefore, the Quality Indicators were not completed during the following years in the grant: 1996-96, 1997-98, and 1998-99.

Follow-Up Questionnaires

Follow-up questionnaires were sent to 149 people who had participated in the project over the five years of the grant. Twenty-eight completed questionnaires were returned and analyzed. Of particular interest was (a) whether or not the participants continued to seek out and acquire knowledge related to the area of assistive technology, (b) how they shared the information they had previously learned about assistive technology with others, and (c) how they had implemented some of the information into their classrooms and with their students. Please refer to Appendix H for a summary of this information.

Of the twenty-eight participants who responded, all indicated that they had attended some form of assistive technology training with the past five years. The average number of training hours completed each year per person ranged from 8 to 13.25. The training topics varied and included trainings related to particular equipment (e.g., IntelliKeys, Dynavox), assistive technology and play, assessment of assistive technology needs for students and in the classroom, integrating assistive technology into the classroom, assistive technology and emergent literacy, assistive technology use with children with PDD and autism, and adapting materials to use with children with disabilities. Participants indicated that they had attended conferences specifically related to assistive technology such as TASH, Augmentative and Alternative Communication Expo, as well as completing university/college classes related to assistive technology.

When asked to list eight ways to make the classroom accessible to all students, participants responded with a wide range of answers and ideas indicating their varied knowledge in the area of assistive technology. Ideas for accessibility were provided for computer access, adaptive play, augmentative and alternative communication, positioning and seating, environmental adaptations, continuing education or training, and use of peer models and

inclusion. Therefore, it appears that the participants in the grant were given a well-rounded basis of knowledge and information regarding assistive technology. They identified many of the areas of the preschool classroom and curriculum, which would need to be adapted for a child with disabilities who would benefit from assistive technology.

All participants indicated that they shared their assistive knowledge with others. The most frequent methods of sharing this information included the following:

- formal/informal discussion with colleagues
- sharing of materials and resources with others
- advocating for assistive technology use in the classroom for specific students
- carry-over knowledge about assistive technology within the classroom from year-to-year
- parent-teacher conferences

Some participants indicated that they shared their knowledge on a more widespread basis with their school district by providing staff development training, being a member of an assistive technology team, providing input into school district policy and procedures for assistive technology needs, and being designated as an assistive technology liaison in the school district. It appears that as a result of participating in the grant, these individuals continued to share their knowledge of assistive technology with others. In addition, some participants took a more active role in this area by advocating for the use of assistive technology and becoming part of an assistive technology team.

Overall, it appears that those who participated in the project, either through workshops only or workshops and on-site training, continued to show an interest in developing their skills in

the area of assistive technology. Their colleagues and school districts benefited from the carry-over of information into their classrooms and the added expertise.

Development of Manuals

Two manuals were developed and refined over the course of the five-year grant. Assistive Technology and Early Childhood Education was developed to assist professionals in implementing the use of assistive technology into the early childhood classroom, curriculum, and Individual Education Plan (IEP). In addition, information regarding training teams and acquiring funding is also included.

Assistive Technology: Tips, Tools, and Techniques is a parent resource manual containing information for the person new to the area of assistive technology. Definitions, examples, and resources are provided throughout the manual on topics such as adaptive play, computers, speech output devices and emergent literacy.

CONCLUSIONS

As the evidence suggests, the participants in the project activities found the experience worthwhile and reported that they acquired valuable information relating to the use of assistive technology in the classroom with young children. Importantly, it appears that the use of on-site technical assistance was considered an effective strategy in assisting participants in understanding and implementing the ideas presented in the training sessions. Although participants in the workshop only phase of the project benefited from the information presented, they lacked the carry-over into functional classroom activities. In fact, these participants often indicated on evaluation forms that classroom visits would have provided feedback on their actual use of assistive technology. In addition, some participants indicated that their interest in attending the workshops waned during the latter part of the year. Perhaps this is due in part to the

lack of support in implementing the ideas and knowledge learned in the workshops and the lack of a more personal relationship between the trainers and the participants. Those who participated in the on-site training felt that the visits helped them to more effectively utilize the information presented by having the project staff demonstrate or assist them in applying the newly learned skill or information into their classroom. In addition, these classroom teams participated in the grant for a second year in which they developed a replication activity in which they shared their knowledge with another classroom team in their school district. The second year allowed the participants to continue to benefit from the knowledge of the project staff and ensured that they continued to implement the ideas learned during the workshops and on-site training. In addition, it developed a broader base of knowledge and use of assistive technology in the school district.

A concern is that parents and caregivers were involved in training sessions in a limited way. Few parents participated and preliminary data indicates that parents continued to be unsure of whether or not their child should use assistive technology nor did they appear to have been presented with sufficient information. During this grant, the project staff included one team member who was a parent of a child who used assistive technology. Classroom teams were open to decide how they would like to use the resources of this project staff member. Suggestions included helping parents make overlays for use at home and meeting with them individually to answer questions. These activities were only made available to the parents of the target children from each classroom that was participating in the grant. It appears that a less open-ended and more comprehension program related to parents/caregivers of children who use assistive technology would have been more beneficial. In addition, activities that involved more parents may have increased participation as well as awareness of assistive technology.

Perhaps the most far-reaching impact of this grant was the increased awareness, knowledge, and services provided in the area of assistive technology in the greater metropolitan area of Phoenix, the state of Arizona, and areas on other Western States (New Mexico, California, Washington). During the latter part of the grant through to the present day, Southwest Human Development has dramatically expanded its Assistive Technology Team. Project staff indicated that their participation in this grant as trainers gave them increased knowledge and the impetus to continue to develop and expand their assistive technology services. Southwest Human Development's Assistive Technology Team acquired state and national funding to develop an Assistive Technology Resource Center as well as to be an important part of the Arizona Technology Access Project. This group has continued to provide training, workshops, support groups, and equipment to families, professionals, and consumers of assistive technology. Indeed, this appears in itself to have completed the primary purpose of the grant - to increase the knowledge and skills of early childhood personnel to facilitate the inclusion of assistive technology into the curriculum with young children with disabilities.

APPENDIX A
Self-Evaluation of Skills and Knowledge by Profession

1. I have no knowledge or skills in this area.
2. I am aware of the importance of this, but lack implementation experience.
3. I need more training to feel competent.
4. I feel competent in this area.
5. I feel that I have expertise in this area.

	1995-96		1996-97		1997-98		1998-99	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
YEARLY SUMMARY	2.7	3.8	2.9	3.4	2.9	3.5	2.63	3.5
TEACHER	2.6	3.6	2.8	3.1	2.7	3.4	2.68	3.78
SPEECH-LANGUAGE PATHOLOGIST	2.6	3.8	2.9	4.1	3.1	3.4	3.11	3.25
PHYSICAL THERAPIST	2.4	3.8	3.4	3.5	2.9	4.2	2.9	4.1
OCCUPATIONAL THERAPIST	2.8	4.1	2.9	NA	2.6	3.6	2.85	2.8
SOCIAL WORKER							2.5	NA
VISION SPECIALIST					3.1	4.6		
PSYCHOLOGIST	2.9	3.7					1.66	4.0
PARENT							1.86	3.8
UNIDENTIFIED							NA	3.3

NA = Not Available

Self-Evaluation of Skills and Knowledge – by Category

1. I have no knowledge or skills in this area.
2. I am aware of the importance of this, but lack implementation experience.
3. I need more training to feel competent.
4. I feel competent in this area.
5. I feel that I have expertise in this area.

	1995-96		1996-97		1997-98		1998-99	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
OVERALL	2.7	3.8	2.9	3.4	2.9	3.5	2.63	3.5
Early Assistive Technology Components	2.7	3.8	2.8	3.43	2.87	3.5	2.72	3.44
Developmentally Appropriate Practices	3.6	4.2	3.9	3.7	3.37	3.7	2.94	3.82
Quality Indicators	2.25	3.6	2.7	3.54	3.53	3.34	2.55	2.58
Curriculum Components	2.4	3.8	2.85	3.63	2.6	3.6	2.55	3.55
Early Assistive Technology Needs Assessment	2.2	3.4	2.53	3.1	2.56	3.57	2.42	3.40
Individual Assistive Technology Plan	2.05	3.6	2.35	3.25	2.3	3.5	2.32	3.42
Teaming Process	3.9	4.1	3.92	3.7	3.36	3.58	3.29	3.73
Independent Replication of Assistive Technology Plans in an Early Childhood Program	1.8	3.1	2	3.07	2.43	3.2	2.24	3.27

APPENDIX B

PERSONNEL SATISFACTION WITH TRAINING

RATING SCALE:

1 Strongly Disagree
2 Disagree
3 Neutral
4 Agree
5 Strongly Agree

Workshops and On-site Training

	1994-95	1995-96	1996-97
Training and technical assistance was effective in helping our team work together successfully	4.3	4.3	3.6
Training and technical assistance was effective in helping our team implement successful Comprehensive Assistive Technology Integration Plans	4.6	4.2	4.2
Training and technical assistance was effective in helping us include parents as key members of our team	3.5	3.2	2.9
Training and technical assistance was effective in helping our team implement Developmentally Appropriate Practices throughout the curriculum and adapt them to the needs of individual children using assistive technology	4.1	4.2	4.1
Training and technical assistance was effective in helping our team implement appropriate positive behavior management strategies	3.6	3.3	3.8
Trainers were respectful of our expertise and were not intrusive in their manner of working with us	4.9	4.2	4.7
Trainers were able to understand and respond to our needs as a team	4.7	4.0	4.0
Training materials (e.g., manuals, handouts) were appropriate and helpful	3.8	4.8	4.6

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The combination of workshops and on-site technical assistance was effective for us	4.5	4.3	4.6
Overall satisfaction with training	4.2	4.05	4.06

What I liked best about this training was:

- Great people giving us valuable information – training staff was knowledgeable, helpful, and onsite weekly – workshops were well put together – informative, well-paced, and motivating
- Completeness of training in terms of theory and being able to use various types of augmentative communication – gaining an increased knowledge of the whole area of assistive technology (especially the devices available)
- Great support actually in our room by an SLP
- Lots of helpful information and new ideas – examples and photocopies of things to use immediately
- New ways to reach students
- Lots of hands-on – in trainings and on-site visits
- On-site visits and assistance – provided me with more applicable skills specific to the children in my class; the workshops are great but it's the carryover into the classrooms that I need assistance on – the visits every other week helped us stay focused and utilize the information – the loaning of materials
- The combination of demonstrations, talks, and on-site assistance with children in our program. It is more meaningful and easier to retain information
- The parent on the project team was a great resource for my parents
- Hands-on switch work
- Being able to use new devices
- The communication board ideas for circle and snack times
- Appropriate handouts for present and future use
- Info on funding sources
- Interacting with teachers from other districts during training – meeting and getting to know the Southwest project staff and teams from around the Valley
- I liked all of the gains I saw my children achieve this year
- The informal and relaxed atmosphere
- The bagels

What I liked least about this training was:

- Completing the Quality Indicators and videotaping of our classroom – many were inappropriate for our classroom
- Buildings and other assignment (case load & parents) not really understanding/supportive of being gone so often – too many other responsibilities
- A lot of material presented in a short time period
- The forms we had to fill out
- More hands-on training and less lecturing – not enough time to experiment with devices
- It took up a lot of time – the number of workshops which pulledme out of class and away from the children – training would be better if held prior to the start of school – if held earlier, it would allow for better planning of lessons, etc
- Three-day workshop – was too much info too fast – might be better to hold on separate days
- Not being able to included our aides/assistants in the training process
- The lack of support from my administration
- Would have liked the parents to play a larger role
- Inability and lack of availability to attempt to use many different devices in our classroom
- Felt lacking in terms of assessment – what would be best for which child
- Trying to adapt what I learned with the children with visual impairments and severe disabilities

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- Lack of effective inclusion activities, follow-up activities for participants
- I feel that I only got help with light tech
- I would have liked a time that we could have talked with our consultant without trying to teach/facilitate 15 children at the same time

I would suggest adding or changing the training in the following way:

- More hands-on and less lecture
- More opportunities to share ideas with other districts – add a big sharing time at end of workshops – would like to see and hear more about what other teams were having success with or having problems with – enjoyed seeing the Side by Side preschool and seeing some of the things they did
- More training on how to implement AAC training and appropriate practices into the classroom and curriculum (especially with older children with multiple disabilities)
- Alternate coming on days when we have children with days when we could sit down and get help with assistive technology – especially high tech
- Increased contact with buildings – possibly teams could share (briefly) information learned so less criticism of being gone so much. Or "ideally" lighter caseloads for those of us in training. I know "dream on" but I did feel that I missed significant time with some students on my caseload, but I was thrilled to have new information
- Getting the parents involved before, during, and after the implementation – parents of targeted children needed to be more informed – more resources for parents who are interested (info on parent workshops, parent newsletters, etc) – have a half-day devoted to involving parents – more ideas (information, suggestions, strategies) on how to increase parent involvement in this – improve the parent home visit component
- Visiting other preschools of teams involved in trainings
- More information on how to write grants
- More information on writing IEPs incorporating assistive technology
- Reduce the paper work
- More make and take activities
- All team members could be more available during on-site training
- More info available for children with severe disabilities
- Expand to include elementary programs
- More "train the trainers" for the presenters
- More intervention
- To be more positive right in the beginning and let the teachers know that it doesn't all have to happen at once – to have us visit a classroom that has gone through the training

Workshops Only

	1997-98	1998-99
Training was effective in helping our team understand how assistive technology could be used in the early childhood curriculum for students with a wide range of disabilities	4.7	4.1
Training was effective in helping our team develop Comprehensive Technology Support Plans for specific students	4.3	3.9
Training was effective in helping our team implement the use of low tech ideas in the classroom	4.6	4.1
Training and technical assistance was effective in helping our team adapt or modify the curriculum to meet the needs of individual children using assistive technology	4.5	3.9
Trainers were respectful of our expertise and were not intrusive in their manner of working with us	4.8	4.4
Trainers were able to understand and respond to our needs as a team	4.4	4.1
Training materials (e.g., manuals, handouts) were appropriate and helpful	4.4	4.4
Training in the form of full-day workshops was effective for us	4.5	4.1
Training would have been more effective if the trainers had been able to observe our classroom activities	3.7	4.4
The amount of training received was appropriate to the topics presented	3.7	4.0
Overall satisfaction with training	4.36	4.14

I would suggest adding or changing the training in the following ways:

- Thank you very much – this was excellent and very exciting
- Wish my team members would have wanted to be a part of this
- More time for make and take
- Classroom visits would be good to have someone tell us how we're doing – it would also be good for you to get a variety of ideas from teachers using these systems
- Computer technology
- Adding more teamwork and setting up support in individual units
- Not having it so spread out – perhaps have more visits to classes to assist with analysis of needs and application of ideas. Our team sort of lost its steam between the first and second workshop. We have applied some of the ideas, however, especially more use of picture boards. And we've definitely come together more as a team thanks to this workshop
- Add parents to team
- Add classroom implementation videos
- Have group demo with specific guided practice

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- Have equipment that works (doesn't freeze or require reloading 3 times)
- Have an "Assistive Tech for Dummies" workshop – training needs to be done by February – it's too late in the year to implement and I am swamped with assessments and IEPs this time of year
- More input from participants on what they use
- Add teachers of older children functioning at a preschool level

APPENDIX C

WORKSHOP EVALUATION SUMMARIES

1994-95: Workshops and On-Site Training

Initial Workshop - Introduction to AAC for Early Childhood Education

Overall, this workshop was:
Excellent – 5 **4** **3** **2** **1 - Poor**
Average: 4.8

During this workshop I gained:
Much New Information - 5 **4** **3** **2** **1 - No New Information**
Average: 4.7

During this workshop I gained:
Many New Skills – 5 **4** **3** **2** **1 - Few New Skills**
Average: 4.2

I expect to use the information and skills:
Every Day – 5 **4** **3** **2** **1 - Rarely**
Average: 4.5

The workshop presentation:
Held My Interest – 5 **4** **3** **2** **1 - Was Dull**
Average: 4.4

The presenters response to the group were:
Excellent – 5 **4** **3** **2** **1 - Poor**
Average: 4.8

Additional Comments:

Strengths:
- Wonderful ideas and knowledge
- Excited about using this in my classroom – have great ideas
- Can start doing things the day I get back to the classroom
- Enjoyed the presentation from the person from Lekotek
- Very well organized, good notebook information
- All presenters could be easily approached for additional information and ideas
- Computer and play suggestions were good – gave great ideas and stimulated new variations and ideas

Needs:

- Overwhelmed with everything – cannot use all of this information at once – need help to prioritize
- Additional hands-on time
- Brainstorming time on actual students vs. case studies
- Want help setting up/adapting classroom & constructing computer programs to use with preschoolers
- Video taken at preschool was dull and didn't show good examples of what we needed to see
- More information on adapting toys, integration of severely involved children and high tech
- Help working on IEPs

Second Workshop – Emergent Literacy

Overall, this workshop was:
Excellent – 5 4 3 2 1 - Poor
Average: 4.4

During this workshop I gained:
Much New Information - 5 4 3 2 1 - No New Information
Average: 3.8

During this workshop I gained:
Many New Skills – 5 4 3 2 1 - Few New Skills
Average: 3.7

I expect to use the information and skills:
Every Day – 5 4 3 2 1 - Rarely
Average: 4.3

The workshop presentation:
Held My Interest – 5 4 3 2 1 - Was Dull
Average: 4.3

The presenters response to the group were:
Excellent – 5 4 3 2 1 - Poor
Average: 4.9

Additional Comments:

Strengths:
- Great handouts – specific and enable us to try new activities and ideas on a continuous basis

Needs:
- Information overload – need fewer topics with team interaction time

Third Workshop – Computers in the Classroom

Overall, this workshop was:
Excellent – 5 4 3 2 1 - Poor
Average: 4.3

During this workshop I gained:
Much New Information - 5 4 3 2 1 - No New Information
Average: 4.3

During this workshop I gained:
Many New Skills – 5 4 3 2 1 - Few New Skills
Average: 3.5

I expect to use the information and skills:
Every Day – 5 4 3 2 1 - Rarely
Average: 3.8

The workshop presentation:
Held My Interest – 5 4 3 2 1 - Was Dull
Average: 4.5

The presenters response to the group were:
Excellent – 5 4 3 2 1 - Poor
Average: 4.9

Additional Comments:

Strengths:
- Liked hands-on
- Enjoyed brainstorming
- Responsive to group needs

Fourth Workshop – High-Tech Devices

Overall, this workshop was:
Excellent – 5 4 3 2 **1 - Poor**
Average: 4.3

During this workshop I gained:
Much New Information - 5 4 3 2 **1 - No New Information**
Average: 4.0

During this workshop I gained:
Many New Skills – 5 4 3 2 **1 - Few New Skills**
Average: 3.6

I expect to use the information and skills:
Every Day – 5 4 3 2 **1 - Rarely**
Average: 3.4

The workshop presentation:
Held My Interest – 5 4 3 2 **1 - Was Dull**
Average: 4.5

The presenters response to the group were:
Excellent – 5 4 3 2 **1 - Poor**
Average: 4.8

Additional Comments:

Strengths:
- Make-it and take-it part was wonderful
- Great amount of time to play around and practice with new devices
- Presenters were very helpful
- Appreciated hand-outs and overlays

Fifth Workshop – Grant Replication/Wrap-up

Overall, this workshop was:
Excellent – 5 4 3 2 1 - Poor
Average: 4.6

During this workshop I gained:
Much New Information - 5 4 3 2 1 - No New Information
Average: 4.1

During this workshop I gained:
Many New Skills – 5 4 3 2 1 - Few New Skills
Average: 4.0

I expect to use the information and skills:
Every Day – 5 4 3 2 1 - Rarely
Average: 4.4

The workshop presentation:
Held My Interest – 5 4 3 2 1 - Was Dull
Average: 4.7

The presenters response to the group were:
Excellent – 5 4 3 2 1 - Poor
Average: 5.0

Additional Comments:

Strengths:
- Thanks to the project staff for their help, input, and sharing of knowledge
- Wonderful learning experience / extremely beneficial / most beneficial project / extremely helpful
- Nice way to wrap up
- Looking forward to refining my new skills
- Thrilled to have contact with project staff over the next year
- Have used new knowledge gained from the workshops daily and it's helped me to prevent frustration in several children and myself
- Having a great resource I can turn to
- Enjoyed having help to engineer my classroom and learning how to use assistive technology
- Made me look at my skills as a teacher and make changes and improvements
- Loved seeing other teams' ideas

Needs:
- Parental, paraprofessional, and other staff inservices would be very helpful
- At times I felt overwhelmed with information
- Another year in the grant

1995-96 & 1996-97: Workshops and On-Site Training

Initial Workshop – Introduction to AAC for Early Childhood Education

I came to this workshop wanting:

- More information about assistive technology – what is available to preschool children – exposure to new technology
- Learn practical applications of assisted tech that can be easily incorporated into the preschool classroom – set up, make, and integrate assistive technology – get ideas of communication activities to use in my room right away
- To gain knowledge about various communication devices (light tech and high tech) – when to use, how to use, benefits of various devices and techniques for aided language stimulation
- Learn more about adapting toys and materials for learning
- Become more familiar with computer technology for children with special needs
- Wanted other team members to take part and share in responsibility of implementation – foster the team concept
- To learn to write better goals

The part I liked best was:

- Lekotek – adapted toys
- Engineering the environment – very practical / excellent examples
- The computer software and adaptations presentation
- How switches can be used
- Viewing videos of an actual classroom that was engineered
- Seeing how easy some devices are to learn and use
- Hands-on activities / practical tips that gave me things I can do in the classroom right now
- Help in writing a grant
- Parent talk was important and information practical and will be easy to share with our parents
- The list of resources
- Brainstorming of new ideas – group activities
- Expertise of presenters – common sense approach
- Lunch catered-in
- The background definitions, etc were helpful

I feel confident that:

- I knew more than I thought I did
- We will go back to our schools and being to incorporate more assistive technology - students will benefit from them
- I have a better idea of how to get started using some of the ideas presented – can get started on some adaptations right away
- I can implement some low tech devices and will be able to learn high-tech devices with additional help
- I will learn a lot – my students and team will benefit – project is valuable to my school district
- I was on the right track, but now I don't have to be the sole person responsible for implementation
- I have a better understanding of what AAC is

This workshop would have been more inclusive if:

- More participant activity, discussion – teams work together more to get their ideas and pick their brains too
- Survey before so you can adjust your presentation to level of audience – first day was too basic for almost all

- No three-day workshops – leaves people overwhelmed rather than confident and motivated – prefer one additional full-day workshop rather than three half-day ones – shorter days
- More than enough information presented
- I knew better what I was getting into beforehand
- More information about children with visual impairments / multiple impairments
- Technology for even lower functioning kids
- More time to interact/access software/computer applications
- Assistants, paraprofessional, regular technology person, principal, administrators were in attendance

I still don't understand:
- Computer stuff was a little over my saturation point
- How to plan and get enough planning time to create and incorporate info into classroom
- All the hierarchies of cueing
- Many of the ways to adjust some of the high-tech equipment for some of the low functioning children
- The parent component – needs to be explained and how her role relates to the project
- The proposal/plan of this project
- The high tech devices – specific to my students' needs
- Using the devices across the curriculum
- Facilitating appropriate play
- Your game plan – "schedule of events" – what is expected of school team this year
- IEP specifics
- Funding processes
- How I'm going to get all of this done with the rest of my caseload
- How to adapt equipment quickly and have it all readily accessible

Next time please:
- Skip best practices overview- teams are practicing professionals- this part was too basic, if part is required, a more discussion format with actual classroom experiences/ideas could be shared rather than a presentation format
- Clean up after participants leave
- Don't read off the handouts
- Think about adding some adaptive equipment that might have tactile input for the mode of communication
- Condense break and lunch downtime – supply lunch to help decrease the amount of time it takes to get it
- Give us a list of all participants so we can share materials and ideas
- Have teams share some of their ideas that have worked for them – cross teams to have experience with people from other teams
- Checklist Indicators of Quality Early Childhood Classroom-Based Programming should not be at the end of the workshop
- More IBM information
- More hands-on activities and time to make actual switches for each group or target kids
- Have a chart (cheat sheet) with specific difficulty and a good software/high tech/low tech solution that the group can fill out during lecture and group and problem solve

And one more thing:
- Smile, act excited about what you're talking about
- Be more positive (e.g., "We know you know this but we're going to go over this anyway", "I don't like these activities, but we're going to do it")
- Take some "train the trainer" courses
- Hold workshop before school starts or at end-of-the-year for next year
- It was a lot of information to assimilate and absorb in a short period of time

- Presenters were very knowledgeable – many different styles of learning techniques – appreciate the diversity, incorporate more
- Room temperature and lighting – room arrangement was not the most comfortable
- Enjoyed all information and notebook
- Thanks for the food – saved time for us
- Could have been a two-day workshop rather than three
- Opening workshop should have been completed in August before school began so assistants get the foundation on what we are trying to accomplish
- Thank-you for the handouts
- I thought you were very well organized
- I wish it was longer because I feel overwhelmed
- I hope this "spills-over" into the regular and special education elementary/school age classrooms too
- I would appreciate a workshop to further develop my early child computer knowledge/on how to make my own materials
- I'm nervous and excited about all of this – but motivated to learn and do my best

Second Workshop – Getting Started with AAC Devices

I came to this workshop wanting:

- More ideas and experience in device use and practice programming devices – the variety of devices, how to use them, which is most appropriate for which kids
- More information on the purpose and eventual outcome of this project
- Learn to make overlays for devices
- To understand how to use cues more effectively
- Reaffirmation
- Help knowing how to use the symbols in a large group (like circle time)
- New ideas and how to do supplemental pictures
- Get information about different AAC devices

The part I liked best was:

- Team practice, problem-solving, and brainstorming
- Understanding cueing strategies and implementing them – aided language stimulation
- Demonstration of devices
- Hands-on/playing with devices – learning how to program, trying a variety of devices
- I can take new skills back to my classroom to enhance communication with my students
- Good handouts
- Videotaped examples
- Seeing the scanning was beneficial
- Cooking activity, making overlays, and sharing ideas

I feel confident that:

- I will continue to learn new things at every workshop
- I will try to pay attention to cueing and make others more aware of this – can be more effective in using cues
- I am on the right track – ready to go back to the classroom and get working
- I have new ideas for using devices
- I can effectively use some the various scanning devices
- I will get more materials made
- I can incorporate this into my classroom and with practice be efficient in programming – devices will benefit my students
- I feel like I'm getting better – it takes a lot of practice and time – I'm not the only one stressed and overwhelmed
- I will be able to know which device to order and how to program it when I receive it

This workshop would have been more inclusive if:

- I think the amount of information was just right for today
- I will eventually want more practice understanding Boardmaker/OverlayMaker and other computer tools
- More videotapes – I would like to see more teachers using the devices successfully
- More input on using assistive technology for children with motor and sensory impairments
- Provided 2-5 minute periods to read info rather than reading handouts to us – or alternate these two ways to cover written material
- Just keep doing what you're doing and keep being responsive to our questions
- All people would have brought items to share
- We have more application training

I still don't understand:

- More specifics re: individual device options
- How to use the language stimulation boards
- Where to find the time – get all the information organized
- How to use the symbols in a large group like circle
- How to get computers to do different scanning

Next time please:

- Allow group activities to be with the group you're with so as to talk about specific children, needs, etc
- Some of the materials could be presented via handout and not covered again in the workshop
- Be more positive, less judgmental in giving "constructive criticism" – don't ask participants to be in the role of judging other participants
- More ideas for actual use in the classroom

And one more thing:

- Thanks!
- Good workshop today – great job presenting your materials
- Friendly and informative presenters
- When we stay here for lunch, please take that into consideration and let us out early (traffic)

Third Workshop – Switches

I came to this workshop wanting:
- General knowledge about how switches work
- To learn to make switches
- Potential funding sources
- Learn how to write effective mini-grants
- Expanded uses for switch toys
- "stuff" I can take home and use
- To learn about positioning for students who need positioning – learn new ideas about positioning/features to look for in chairs
- Ideas of ways to use switches
- Switch ideas to make out of everyday items and classroom junk / learn to make switches with little or no money

The part I liked best was:
- Making switches – hands-on activity and testing out the different types of switches
- Presentation on mini-grants
- Different switch toys
- Volunteer ideas
- Learned a great deal about wheelchairs / mobility
- Emergent writing skills

I feel confident that:
- I probably won't attempt making my own switches, even though I enjoyed making on today
- I can use other resources/volunteers to help – my team will help me adapt toys
- I can make more switches and battery interrupters
- I can adapt toys and battery-operated appliances
- I will use the switch I made
- I will use the info from these workshops in servicing kids
- Making switches is not for me

This workshop would have been more inclusive if:
- Very inclusive today – participants helped each other, shared info
- We had some switch-latch timer interfaces that activated toys or even latching toys
- Assistants were included
- We went into a little more into positioning the children in the classroom, besides the wheelchair
- I had made a sample of more switches – we could make more
- Don't change anything

I still don't understand:
- Grants
- Exactly how to use the switches with a large group of children
- How to make all of the switches
- How to solder well

Next time please:
- Do more of the same
- Allow for more breaks
- A video that shows a teacher or SLP using the switches with a group of children

- Get lunch from the same place - delicious

And one more thing:
- Bringing lunch in was a good idea
- Keep up the good work – thanks!

Fourth Workshop – Literacy / Low Vision Issues

I came to this workshop wanting:
- To learn how to teach literacy at the preschool level
- Information on visual impairment – using books with children with little/no vision
- Book, activity, and song ideas – even more ideas and ways to use AT in the classroom
- Learn how to infuse more literacy into our classroom
- Info on importance and outcome of literacy events

The part I liked best was:
- Chance to do hands-on
- Info on vision
- Info on emergent literacy was well put-together and readable – liked having background information as well as teaching practices based on background information
- Liked the Say It/See It program – use of computers - great ideas – demonstrations were helpful
- Working in small groups brainstorming ideas – brainstorming for our particular caseload
- Sharing of materials we made and how we organize different things – adaptations, songs, activities – sharing between groups outside of my team – good interactions between participants – lots of ideas exchanged

I feel confident that:
- Many of the things we saw can easily be implemented in our program – we can include more literacy activities in the classroom
- I will make some changes in how I do songs with choice boards
- I am on the right track in my classroom
- I will get more materials made – I can make books and songs in my classroom
- I have more knowledge to share with colleagues/parents

This workshop would have been more inclusive if:
- Felt rushed to get through literacy information

I still don't understand:
- Making books more "accessible" to visually-impaired children
- How to find the time needed to do this

Next time please:
- Continue to do an excellent job
- Helpful to have a short video putting together clips showing what a circle time, small group time, etc looks like in a classroom that is merging whole language and technology
- Have a small treat at the end of the day
- Hands-on and sharing again please

And one more thing:
- Thank you – you are doing a great job – great lunch menu
- Each workshop gives me another piece of the puzzle – I am starting to understand why we do the songs or the stories a certain way
- Speakers on low vision issues were very knowledgeable
- I wish our assistants could have attended many of these workshops/trainings as they have to carry out many of the activities during daily routines

Fifth Workshop – Grant Replication

I came to this workshop wanting:

- Not sure …
- My present
- Some motivation and new ideas
- Solidify my plans for the workshop we are planning
- See the Side-by-Side preschool
- Figure out what my Comprehensive Technology Integration Plan was all about
- See how I can assist in transfer of knowledge and applications to other classrooms on campus and at other district schools – how to pass this info onto other interested parties
- To get energized and excited about AT for this year
- How to train more effectively
- Wrap-up for basic training program
- Reconnect with the grant project

The part I liked best was:

- Sharing – it was really good to hear what everyone elsewas doing, what's going on this year, hearing ideas and challenges, felt encouraged by all the progress we've made
- My present
- Having the food supplied
- Seeing the preschool classroom gave me some ideas and also made me fell that while there is more work to do, we are on the right track
- Idea of using clear tablecloths to provide choices
- The adult learning strategies – becoming an effective trainer section
- Scheduling site visits / agenda planning
- Nice to get perspective from school districts that have implemented training

I feel confident that:

- We'll continue to get support next year – it will be great to continue to get info
- I can write better IEP goals – integration of AAC
- I understand the Integration Plan
- We will have an informative make it/take it workshop
- I can do simple AAC evals and integration plans in the classroom
- We will continue with AT and will be sharing info with others – better idea of how to relate the info I get to my aide and parents – my trainings will be more effective
- We will continue to have good follow-up in our district
- We can continue to work toward our goal of implementing participation, communication for all our students

This workshop would have been more inclusive if:

- Today's agenda left room for very inclusive participation
- We could have everyone attend that is involved with preschool in our district
- Had assistants with us

I still don't understand:

- I need more exposure to dynamic display devices
- How to program the Minspeak devices
- How I'm going to have time to integrate everything – how I can get everything organized for users of AT in my classroom

Next time please:

- Continue to focus on "real" situations and students
- Show us how to use and program the device before we use it
- Change this form – it's too vague
- I prefer to go out for lunch
- Shorter lunch break

And one more thing:

- Your support and encouragement were evident today – it is much appreciated
- You've done a great job to inspire us even more
- Thanks for all your work, info, literature, and handouts – you guys are terrific
- I am still getting comfortable using the materials during lessons and free play
- I wish we could have the Southwest project people come to our sites more frequently
- It was helpful tome in that I see that implementing technology is a process and I feel more at ease knowing that I don't have to use it all right away, with perfect understanding

1997-98 & 1998-99: Workshops Only

Initial Training

I came to this workshop wanting:

- To find out more about assistive technology and how I can use it in my classroom/homes of children I serve throughout the day
- To be less of a tech phobic / to feel more comfortable with the concept and use of AT
- Some how-to's/ideas/practical applications – further knowledge re: use of both high tech and low tech adaptations for preschool children
- Low-tech ideas to use at Head Start and on the Reservation where AAC devices are very limited, as is expertise
- Info on adapting and programming computers – more hands-on experience
- A refresher course in AAC and to see all the new ideas
- Information regarding what is available and how to go about funding access to it
- To know what I am doing here
- Support my team since they asked me to come
- Wanted my whole team to have a chance to work together on ideas for using AT with our kids, so we'd have the same reference point
- Ideas on how to motivate teachers and staff to want to take the time it takes to get these things accomplished
- Find other people who can be resources
- Feel more proficient using assistive technology, especially the DynaVox
- To know how to involve a very involved CP student into daily preschool activities as fully as possible
- When I said I was attending an assistive technology workshop, a couple of people said, "You shouldn't go! All that will happen is you'll find out about all these great things that are out there that we can't get for our kids. It'll just frustrate you". They couldn't have been more wrong! I'm leaving this workshop with so many low-tech ideas that I can implement right away for little or no money. Thankyou!
- More demonstrations of activities involving augmentative communication at a lowtech level in preschool and "side-by-side" classrooms
- To have the family truly included in some brainstorming and possibly decision making regarding their child's needs related to the possibility of AT
- To find out what kind of machines to use
- To understand and learn more about how to help and teach my son different things and to learn myself how I could do things with him and teach him – different ideas that wold benefit him

The part I liked best was:

- Seeing samples of various activities / teaching ideas used in classroom – different ideas for story time/playtime activities – how to integrate AT into preschool routines
- Engineering the environment
- Sharing ideas and collaborating/meeting people
- Working as a team and talking among ourselves in small groups
- All preschool here at one time – on same "wavelength" by end
- Hands-on activities / being able to see and use actual devices – it's much easier to generate ideas and get excited about the project when we can manipulate it – seeing the technology as opposed to pictures, slides, or overheads
- Small group lab activities – useful to be able to experiment with developing vocabulary and programming the devices
- Filling out the chart on AAC devices – structured exploration time of the AAC devices
- How to use computers/IntelliKeys
- Your manual looked helpful; outline helped keep focus – really enjoyed the organization of materials – outline, manual, overheads, etc. Liked the manual, handouts and ready to use communication symbols
- The toys –adaptive play strategies

- Utilizing inexpensive products – variety of ways to use everyday objects and routines to increase language and participation
- Information on low and high technology – enjoyed learning about symbols and use of symbol boards / voice output devices
- Exploring and making switches
- Emphasis on low tech first and how to adapt easily and then when to proceed to higher tech devices
- The information was great
- Demonstrating materials and equipment
- Give aways
- All of my students can benefit from assistive technology in the classroom
- Much more actual functional material for the service provider was presented than any other AT program I have attended – this it the best conference I have attended on this subject
- Opportunity to ask questions – apply material during hands-on activities
- Upbeat presentation/style of both presenters – clarity of presentation – interaction and variety (overheads, video, visuals)
- Great video – AT in classroom
- The presenters – the fact that they had current first-hand experience in the classroom

I feel confident that:

- I might be able to begin using some of the ideas in my classroom – This class will make a difference in how our classrooms operate - I can utilize assistive technology without undue stress
- I will look at my classroom with different eyes
- I have ideas for long term goals for my classroom – have a plan for identifying needs, selecting appropriate technology, accessing technology and implementing technology in a team approach
- I know where to start to look at a child's needs for assistive technology
- I am doing a good job with my students / I know more than I give myself credit for / I am more confident in assessing for, considering, ad choosing AT
- I need more info / can find info / need to improve my skills in this area to build expertise
- Information learned will complement my assessment and treatment approach
- I can provide teachers and staff with more information and instructions on adaptive equipment/device and for computer access for students with physical disabilities I can train my team to use this in the classroom
- I have more knowledge of ways to include nonverbal students in classroom activities
- I can now, when someone asks, talk about and get involved in AT discussions and begin instilling AT
- I could identify some of the adapters to make toys and manipulatives "user friendly"
- I have an understanding of AT and can now make informed decisions
- I can further engineer my classroom to facilitate more independence and capabilities
- The "team" will follow through since we got to come together – implement the ideas that we brainstormed today – our team is now on the same wavelength
- I will need to call on my team for support
- My teacher supervisor was present with me as well as the parent of a child with special needs – we can put our minds together to get something going
- I see more ways to bring speech/language development into the therapy room
- I can teach my son with all of the information that I have learned here

This workshop would have been more inclusive if:

- We were actually able to make an activity that we could uses in our classrooms / more make and take
- Could see more devices - demonstration and listing of pros and cons of each device – more information on programming specific devices
- Invite more teachers / more people from our school districts / paraprofessionals, assistants been included / brought children and parents to see what worked best for them / whole team could have attended / the administration is available
- I expected more parents and children
- Prior to or on day one have question and answer basket to address problem cases

- Would enjoy more in-depth look at actual use of computer adaptations / hands-on at the computer
- Even more actual demonstrations of effective low-tech AAC strategies for preschoolers – I enjoyed the review of high-tech devices and computer access modifications, but the fact is that we are unlikely to be working with these devices much, especially in preschool classrooms
- Videos of actual learning situations doing a story or activity using these materials / watching someone skilled demonstrating the technology with special ed students / more videos
- We could have seen an actual child using some of these devices
- It was site-based with hands-on tries for us
- We had computer access to demo / ability to try computer adaptations
- Each person had to bring one type of adaptive equipment of communication device/board that they have used successfully
- More time had been spent directly addressing home issues vs. classroom issues – I deal with families in a home-based program and would have appreciated more information directly addressing the early needs of the child under 3 years whose primary environment is within the context of home and family
- The information on the morning session of the 2nd day became too technical for me and difficult to follow
- Information on the first day could have been presented quicker (only half day)
- I could use another day
- It could have been more specific – one complete day on adaptive play, computers, AAC

I still don't understand:

- Computer terminology
- How to set-up peripheral devices to computers – hooking everything up and using various programs
- How some of the programs work – other equipment you spoke about yet didn't actually have to show
- Perhaps local participants could bring their own equipment, programs to share; less equipment for you to bring – share stories /bring materials related to successful activities in the classrooms
- What to purchase specifically for certain types of kids/purposes – when to move a child into a voice output device and how to fund it – when to decide if light tech is not enough for this child and when it is enough – when to use one type of AT over another
- Quality Indicators
- All the ways to organize pictures boards
- How effective using PCS everywhere and truly encouraged kids' initiation of communication – does teacher/aide consistently use these too, to model, all day?
- Time to do symbol communication – how to get everything done
- Switches and battery interrupters – how to adapt available toys for switch use
- Most of the devices are confusing to me
- Positioning
- How to put it all together
- Environmental strategies
- I have the book knowledge of what is supposed to happen, but when I have seen so many kids that don't talk, I'm not sure if I'm doing the right thing for them
- How I can assume what it is that the nonverbal child wants to say. I have a hard time becoming more comfortable with presuming to know what the child wants to say and thus end up limiting him to what I think he wants to say. I suppose saying something is better than saying nothing, but I feel that this necessity to make a huge value judgment is a major flaw in the whole idea of AAC
- How to access/order technology for children in my state
- How to get our special ed. Administrator to allow us time and funding to get the equipment need – need meeting time
- This time was valuable for teaming and brainstorming – we need to do more of this
- Where to get the time to work with staff, make materials, attend meetings without canceling students

Next time please:

- Explain acronyms

- More engineering – low tech – engineer a classroom (storage, staff development) – all day workshop on engineering a classroom where we can create low tech items to take back to our classroom
- More make-it/take-it – more hands-on activities and good ideas
- I feel that there needs to be more hands-on activities and not as much lecture. Because lecture does not help people to not be afraid of all this technology. Because it is kind of hard to listen, then use the product for a few minutes. Because then you can't understand. And the guide gives us a lot of information
- Teach us how to make a switch and battery interrupter
- Have participants put together or make language stimulation board
- Site info from other people
- Need reference info
- Info on literacy
- Find a warmer room
- Have computers available to show work programs – more computer work
- Do in a location where Boardmaker is available
- Spend more time on evaluation process - walk me through assessment and give more info on the criteria, etc
- Use videos of children using various AT and teaching of small/large groups with AT
- Expand use of IntelliTools
- Talk about goals/objectives
- Talk about when to transition from light to high tech
- Support once kids have left preschool and kindergarten, especially kids who are much lower cognitively
- Give us more time to meet as a team – we would get your solutions, ideas right away and be able to try or suggest alternate strategies
- If you are going to request parents to attend, then please allow time to spend with these parents individually to discuss their needs and concerns. Not all parents can just jump into a large group discussion ad share their personal/family concerns. But, parents who attend are likely to have varying experiences with AT and deserve to have their individual's child's needs addressed to their level of comprehension and readiness to accept

And one more thing:

- Enjoyed the two days / keep up the good work / it was a great workshop / most informative AT workshop I've attended
- Sharing info with colleagues and developing future inservices/workshops
- It is important to realize the differences among states in terms of funding, laws, staffing, and trends in philosophy
- Address funding issues and time for preparation of materials
- I really liked having devices available to play with – catalogs can be misleading
- Less focus on early childhood curriculum because it is something we all should know and do know
- Thanks / great / interesting / well organized / on-time / informative / applicable / inspiring / we liked you / great resource / one of the best courses I have ever been to
- Liked the organization of time, the manual and resource list, balance of presentation time with work time, lots of equipment/resources to see
- I feel very comfortable thinking about new ideas for the classroom
- Good job! You both have good rapport with your audience; you speak English not "teacheze", which puts the novice at ease. Additionally, you met the needs and address the knowledge base of the more experienced user
- Thanks to our coordinator for applying for CEUs – we need these for certification
- Nice job of "simplifying" technology
- Change location of this class
- Your slides were not clear – you need to retake them
- Have a video or slides that show teaching
- I liked that this workshop focused on preschool environments only – too often workshops deal with such a wide age range that info is too shallow to be useful

- I feel that in a group which included parents, the presenters and participants need to be more sensitive to the fact that they don't know these parents and where they are in their acceptance and understanding of their child's disability. Such phrases as "even the child who is really low" are insensitive to those families who are in the process of discovering their child's abilities and coming to grips with his/her needs
- I hate this kind of evaluation – you have to think so hard – I like multiple choice

Second Training

I came to this workshop wanting:

- To continue to train in applying AT to my own classroom – how to use it successfully and appropriately
- More info on devices, light tech, switches, and computers and how to implement in the classroom and therapy room
- Time to make one activity that I can use in my class
- More low tech support systems that I can do by myself now
- An overview of new technology
- New ways to work with students – new ideas to use in helping kids to communicate nonverbally and to adapt the environment for their control
- Tools to use for assessing students
- Hands-on learning
- Motivation
- Updated information on using and fabricating switches
- New ideas for expressive communication
- To learn to write grants
- Ideas for my hearing impaired students who are visual
- I am beginning sight word/Rebus picture phrases and sentences – so ideas for using and combining

The part I liked best was:

- Videos – suggestions taken from everyone's classroom videotape
- The home video – movie was helpful for home activities
- Actually brainstorming ideas with speech teacher / SLP re: actual student in my class
- Hands-on exploring devices and being able to ask questions about the device
- Learning to determine an individual plan from a case study
- Seeing goals with the activities
- Infusing AT in the classroom
- Becoming aware of the latest technology
- Making the switch – learning about "solder-less" methods to make a switch
- How easy you make this topic appear
- Discussion re: functional objectives
- Working as a group on the Comprehensive Technology Support Plans
- Making the 16-location communication board – color coding
- Having time to finish something to use tomorrow
- I like realizing that as an OT I can do lots of speech too
- Getting ideas from other programs and sharing information – collaboration with teams
- Grant writing was very helpful

I feel confident that:

- This information will be useful – I will be able to use what I have learned and share with other staff
- I'm doing a pretty good job, considering how much time I have with the student
- I can ultimately determine an AT plan as part of a team
- I need more information regarding where the use is necessary and how to implement it
- I can write a functional goal and objective – write task components with steps and sequences – work on some Comprehensive Technology Plans
- I can try these ideas with my students immediately– we can make a difference because of this workshop
- I'll use the language boards because I've already got them ready to use – I'll use the switch
- I can make more switches
- I can come up with 2-3 more ideas to help make my classroom more functional
- I have acquired increased knowledge on choosing AAC equipment, goal writing, AAC assessing

- I am using some effective tools to help children communicate and participate
- Knowing that I'm not alone being a little clueless on how to work with my student who is multi handicapped
- My therapeutic activities will be more fun
- I am more aware of suggestions to make to teachers and parents to accommodate children's needs

This workshop would have been more inclusive if:

- We would have more make and take activities and more time to make activities
- Each machine would have been better demonstrated
- We brainstormed individual classroom/child and came up with one activity board for how to include these kids
- It covered more low-tech items for lower cognitively functioning children or how to break it down into simpler more family/environmentally (situational) steps
- We had all done some exercise where we only communicated with picture symbols to gain a perspective
- The grant allowed you to give us a wonderful piece of software
- Addressing older students (e.g., high school) but are at a 1st and 2nd grade level
- There wold have been more for younger children (0-3)
- I would love for all therapists to do this workshop as a team
- More parents could have been involved
- More feedback from other disciplines
- The aides cold have attended with us

I still don't understand:

- Enough about switches and devices – the specific features of each AT device
- How I should use ideas in the little time I have – how do I get it all done – finding time to do everything – how to find time in the day to work together to get vocabulary and activities organized
- How to use these techniques to better include their communication abilities step by step
- How to implement the ideas today with a younger population or multiply impaired children – how to help someone who has really limited motor abilities access some of these communication devices
- How to make certain that AT devices are not intrusive or too artificial for the child's needs
- How to impress parents with the usefulness of tech devices at home parents don't always seem to want to learn to use adaptations or to take the time to use them
- How to get more consistency in communication pictures between ASL and English
- Why "please/thank-you" aren't included on every symbol board. We drill and expect typical peers to use these words and I think that we should expect children with disabilities to use these same manners
- Whether or not children actually use these symbol systems and/or AT to communicate or whether or not this is just a high tech way of doing "hand over hand"
- Mini grant writing

Next time please:

- Ask people to bring a few ideas in use in their preschool classrooms to share
- Have more make and take activities / continue to do hands-on stuff with practical applications
- Come visit with us
- Try to understand that each teacher has different students that their needs are not being met and how you can help us – instead of assuming that you know what we are talking about
- Tell us or provide information on grant writing for assistive technology
- Computer adaptations and computer assistive technology – IntelliTools stuff – more time on computers
- Supply list to make simple switch
- Bring more primary reinforcers – candy
- Books, courses, videos we can purchase on our own to continue or improve our knowledge base
- I wold like to find software which will help someone with limited motor control
- Include more for younger children or children who function at a lower level

- More information on the steps required to progress to differing levels would also be helpful
- Have site-based follow-ups
- Information for Head Start teachers and aides

And one more thing:

- Thank-you for all the information and expertise/ you guys are great / great job / good planning by the presenters
- I use color Boardmaker and would surely use this in place of black and white pictures
- I never use "stick" figures when making my pictures
- It would be nice to get clock hours – but is was a great workshop anyway
- Continue to encourage entire teams to come – it is difficult to implement with just one or two
- I'm leaving here really excited to try some new stuff
- Thanks for the switch supplies
- I wold like to see some video of actual children using these techniques functionally
- It is helpful to be able to share ideas with others about different solutions to some of the same problems / planning time would be beneficial
- Snacks were very nice
- I like the hands-on activities
- I would like to know what kinds of things you do for children who do not understand enough to use all of this technology
- I enjoyed coming to this workshop and would love to have another one again

Third Training

I came to this workshop wanting:

- Strategies for communication and ways to increase participation
- More information and knowledge on AT and materials to use – hands-on experience
- See more ideas of what other teachers are using in their classrooms
- To learn how to help our preschoolers
- More information on computer use and programs – more about software and switches
- Practical advice given resource limitations
- To know more about the concepts involved in deciding what technology is appropriate for a given child
- To understand how to evaluate the need for and prescribe the appropriate AT for individual students
- To be in my classroom – a lot of this information was review for me because I've been to numerous AT workshops/inservices before

The part I liked best was:

- Making the switch and exploring a wide variety of uses for them
- Hands-on make and take - communication boards and computer use
- Handouts
- Practical ideas and things we could take home
- The visuals and examples of assistive technology
- Head mouse and head/light pointer
- Book titles
- Adapting books to switches for repetition and "reading" practice
- Responsiveness of facilitators in providing what was previously requested
- The time to collaborate with our teams and utilize ideas that are fresh in our minds, the different perspectives are great

I feel confident that:

- Switches and communication pictures will become a more comfortable part of my classroom
- I can use choice boards and placemats as a start – implement some of these strategies in my classroom – use many of the ideas presented in the classroom
- I can be an AT support for teachers
- I can understand device use and low tech items – better understanding of some of the resources/types of technology available
- I have more hands-on experience needed for selecting devices, etc for purchase, given limited budget resources
- I will feel less overwhelmed by computer program use
- I still need more training – hands-on actual equipment
- If we had a computer in our classroom we would definitely utilize it
- I don't understand how this equipment works and I would hate to spend the money on it if I didn't understand how to use it
- I will continue to seek new ideas from others – I can look up or contact someone to find answers to my questions

This workshop would have been more inclusive if:

- More hands-on
- A class visit had occurred by the trainers – on-site visits and training at the individual schools – we had guided practice
- We could have one day to break out into our classrooms and have your team members share individual classroom ideas
- How to use access for computers and switches repeated again

- PC computers presented rather than just Macs
- More time was spent working with us on the devices
- Examples of cross age, same age tutors incorporation into equipment usage via video
- It had been demonstrated on an overhead while we were working on computers in front of us at the same time
- It included teachers/therapists who work with older children who are at the preschool level
- Just enough info

I still don't understand:
- Much about working with high tech
- How to lower material for my population
- All the knowledge in the text
- I'm still developing symbol displays
- How to make this work in my classroom
- Much about securing funding for technology
- How to run some of the computer software programs and some of the computer terms
- I still need practice on the assistive technology plan
- How to implement these strategies with visually impaired children who need AAC devices
- Where you find the time – I'm getting better and have an accumulation of materials that makes my job easier
- The individual evaluation process

Next time please:
- Keep the discussion and activities going – we learn so much from your input and the actual cases discussed
- More time for make and take – more hands-on
- Bring some kids who use it to demonstrate
- List of attendees so attendees can call others for ideas or rehashing what the presenters said
- Show entire applications from loading to closing
- More ideas about integrating assistive technology outdoors
- Continue to have the variety of methods for communicating information
- Use only the equipment, programs, and materials we have available
- Spend more time on a step by step evaluation process

And one more thing:
- Wonderful presenters
- Great topics / excellent course / one of the best workshops I've ever attended
- Thank-you for providing your expertise
- Thanks for your interest in helping us more boldly go where we may have anxieties around successful use of new technologies

APPENDIX D

STAFF PERCEPTIONS OF CHILD PROGRESS/ADJUSTMENT

RATING SCALE:

1	2	3	4
Poor	Fair	Good	Excellent

CATEGORY	1995-96	1996-97
Educational development	2.8	2.7
Independence in performing tasks	2.2	2.8
Performance of self-help skills	1.9	2.5
Communication skills	2.4	2.4
Social interaction with other children	2.4	2.6
Accomplishments toward specific IEP OR Comprehensive Technology Plan goals	2.7	2.8
How useful do you feel assistive technology has been in your student's progress	2.8	2.8
How well has assistive technology been incorporated into home activities	2.0	1.0
How well have other school personnel incorporated the use of assistive technology when working with this child	2.8	1.9
How have typical children responded to the use of assistive technology in the classroom	3.1	3.7
OVERALL	2.51	2.52

STRENGTHS

- Significant improvements in communication, articulation, language, and overall development noted
- Assistive technology grant program has helped her most by helping me to provide better cues and understand her methods of communication
- Being required to do more for himself at home
- Beginning to get the idea of how to use communication pictures

- Enjoys using assistive technology during large group such as stories and songs to participate in repetitive phrases with class
- Would benefit from higher tech device in kindergarten to allow him to communicate complete sentences/thoughts to his peers
- Very attentive to use of low tech assistive technology – use his placemat to initiate requests
- Other children have enjoyed assisting child with these activities
- File folder pictures for activities have been extremely helpful in communicating expectations and sequencing of activities

NEEDS

- Poor attendance
- No family support
- Parents are overwhelmed but excited about what child has accomplished
- Our low area of achievement this year is working with parents in the home to start incorporating assistive tech there
- Health issues have hindered ability to participate more fully in class activities involving assistive technology

APPENDIX E

PARENT PERCEPTIONS OF CHILD PROGRESS/ADJUSTMENT

RATING SCALE:

1	2	3	4
Poor	Fair	Good	Excellent

CATEGORY	1995-96	1996-97
Educational development	2.6	3.5
Independence in performing tasks	2.6	3.0
Performance of self-help skills	2.4	4.0
Communication skills	2.6	3.5
Social interaction with other children	2.3	3.5
Social interaction with other family members	3.1	3.5
Accomplishments toward specific IEP goals	2.9	3.5
How useful do you feel assistive technology has been in your child" progress	3.0	4.0
How well has assistive technology been incorporated into home activities	2.9	3.5
Rate your understanding of assistive technology as it benefits your child	3.1	3.5
OVERALL	2.75	3.55

STRENGTHS

- Great deal of progress during the past semester
- More verbal around the house
- Assistive technology is a great method
- Associates words so much better with pictures – make learning easier
- Computer software programs bought for home use – improved motor skills and eyehand coordination
- I am extremely pleased and proud of all the wonderful help we have had with this extremely beneficial program
- Program was great and helpful to the teacher and me

BEST COPY AVAILABLE

NEEDS

- Has learned a lot in the preschool class but not sure how assistive technology specifically has helped
- Quick to get frustrated and give up at home
- Not appropriate

APPENDIX F - QUALITY INDICATORS

INTRODUCTION

The purpose of the **Quality Indicators** checklist is to provide program and classroom personnel with objective information concerning the effectiveness of classroom-based programming and activities. Through observations of typical classroom activities (i.e., opening circle, gross motor, small & large group activities) staff will be able to identify strong activities as well as those that may need attention. Observational information may also be reorganized toprovide information about areas of best practice, such as use of strategies for facilitating interactions among children or methods used to involve families in programming. Information gained through classroom observations provides an objective base fromwhich staff may target specific classroom activities or best practice areas in need of changes. Subsequent observations (i.e., mid-year and end-of-year) provide data concerning changes in classroom activities or best practice indicators and allow staff to judge the effectiveness of changes or to identify additional areas requiring modifications. A special focus of the **Quality Indicators** is on the identification and design of parameters that will contribute to inclusive preschool classrooms for young children with disabilities. As such, the **Quality Indicators** provide the opportunity for staff to conduct initial assessments of their preschool classrooms and determine areas in which modifications and/or enhancements may be required to ensure the full participation and benefit for all children in the classroom.

Learning is an active and social process that is maximized when children are actively engaged in interactions with the physical environment (materials and activities) and social environment (peers and adults). When offered choices, children tend to select and stay with activities that are developmentally appropriate for them. Through their experiences children are able to build on what they already know as well as generate new information. According to Piaget, the process of assimilation and accommodation allows children to learn simple concepts and then use these concepts to acquire more complex information about the world around them. Although the environment plays an important role in children'slearning, many diverse theorists including Piaget, Skinner and Vgotsky have agreed that it is not the environment per se that influences learning.

Rather, learning is a process that is grounded in children's interactions with the environment and through their interactions with the environment children are able to confirm, deny, or challenge their existing knowledge (Piaget, 1963). At the same time that children are interacting with the environment to acquire cognitive knowledge, they are also developing socially and emotionally. Through their interactions with others, children learn that what they say and do effects others in the environment. They also learn to cooperate and share as well as distinguish between appropriate and inappropriate behaviors (Trister-Dodge, 1988).

While typically developing children may thrive in the context of developmentally appropriate materials and activities, children with disabilities require somewhat more than exposure to such optimal contexts (Mallory, 1992; McWilliam & Bailey, 1993; Wolery, Strain, & Bailey, 1992). In particular, collaboration among classroom personnel must occur on a regular basis to plan and set up the preschool learning environment to ensure positive outcomes in children with disabilities. Every aspect of the preschool experience can be regarded as a dimension of the child's environment, including the curriculum, the pattern and quality of interactions, instructional strategies, the schedule and the amount of structure it provides, the presence of other people, the materials and activities, and the physical space provided (Bailey & Woolery, 1992). Any of these parameters may either enhance or detract from a child's achievement of his/her maximum learning potential. Through careful environmental planning acquisition, facilitation, generalization, and nurturance of skills can occur to ensure that children with disabilities derive maximum benefits from the inclusive preschool experience. The **Quality Indicators** have been designed to yield information regarding aspects of the preschool experience known to impact the learning potential of young children in general, and children with disabilities in particular.

CONDUCTING THE OBSERVATIONS

One or more individuals may use the **Quality Indicator** checklist items as a basis for observing classroom activities. The checklist is divided by the following classroom groupings and also includes an area of indicators that address specifically those items that relate only to children who require adult assistance to participate actively in classroom activities. Groupings include: **Opening/Closing; Small Group Activities; Large Group Activities; Transitions Between Activities; Snack; and Toileting**.

The observer selects specific activities to observe within each of these categories. For example, opening activities may be observed (and closing activities not observed). One small group and large group activity are also selected. Snack and toileting are observed. Finally, the observer determines which transitions between activities are to be observed. Ratings are based on direct observations of a **sample** of activities that fit within a specific category.

Some items are not directly observable in instructions provided for children but are observed by reviewing documents that are available within the classroom. For example, one indicator states that "written lesson plans are available, are written so the substitute staff can follow them easily, and reflect what occurs when the activity is implemented. Strategies for including the use of assistive technology are clearly specified in the lesson plans." To accurately rate this item, the observer finds the written lesson plan for the small group activity being observed and judges the extent to which the indicator is present by both observing the activity while reviewing the written content of the lesson plan. Items that may require information other than that provided through direct observation of classroom instruction are marked on the **Quality Indicator** checklist with a "W" following the item number. Observers secure the additional information that may be needed to provide the most accurate rating of these **Quality Indicator** items.

Scoring System

The observer scores each indicator within each category with one rating from the list below that best describes the extent to which that indicator was demonstrated during the observation period:

N/O - No opportunities were present to observe this item.

0 - This item was not observed although opportunities for its occurrence occurred.

1 - This item was observed in some instances but not in all possible opportunities observed (i.e., occurs inconsistently with some but not all students; some but not all staff; or examples of "successive approximation" are noted).

2 - The item is observed as present under most observed circumstances.

Interpretation

The observer scores the **Quality Indicator** checklist in two ways. The first is to total the rating scores within each classroom programming area. This score is recorded on scoring summary sheet (at the end of the observational checklist) over the total number of points that are possible if each quality indicator was present under most circumstances. A percent score is calculated by dividing the total number of points obtained by the total number of points possible within each category.

The items are regrouped by best practice categories for the second analysis. Again, percent scores are calculated by dividing the total number of points obtained by the total number of points possible if all indicators within a category were observed under most circumstances. Categorical items include family-centered services (F), social integration (SI), child outcomes (CO), management of behavior (MB), curriculum content (CC), planning (P), instructional integration (II), facilitating strategies (FS), and the physical environment (PE).

QUALITY INDICATOR CHECKLIST

Date: _____ **Observer:** _____ **Observation #:** _____

Area	Total Possible	Percent
Opening/Closing (15 items)	30	
Small Group Activities (15 items)	30	
Large Group Activities (23 items)	46	
Transitions (10 items)	20	
Snack (3 items)	6	
Toileting (5 items)	10	
Children who Require Adult Assistance (11 items)	20	
TOTALS		

**Divide Score by Total Possible*

Strong Areas: _____

_____

_____

Areas of Future Focus:

1. _____
2. _____
3. _____

Indicators of Quality Early Childhood Classroom Programming

OPENING CIRCLE/CLOSING ACTIVITY (Large Group and Entering/Leaving) **Score**

1. Interactions among parents and staff communicate information and concerns (behavior, medical needs, etc.) about children in a positive manner. (F) _____

2W. Staff maintains on-going communications with families through formal (meetings) and informal (daily or weekly notes) contact to acquire information that will help children to be more active participants in classroom activities. (F) _____

3. Staff encourages family involvement in the daily program. Parents are encouraged to volunteer, or participate in the program by sharing a skill/interest or some aspect of their cultural heritage. (F) _____

4W. Staff supports and helps families by providing information that addresses areas of interest/concern identified by families. (F) _____

5. Appropriate positive management routines are implemented for children who have difficulty separating from parents on entering the classroom. (MB) _____

6. Each child is being taught the routine associated with entering the classroom and following the class routine. (F)
_____

7. Opening and closing activities allow children to express themselves through discussion, song, movement, and dance. Assistive technology is incorporated in opening and closing activities so as to facilitate each child's self-expression. (CC) (AT)
_____

8. Individualized group instruction is implemented to allow each child to be an active participant during large group activities. Augmentative communication methods/equipment is used interactively and appropriately so as to facilitate full participation for each child. (II) (AT) _____

9. Each child is an active or partial participant in opening/closing activities for the majority of the time. Children participate more frequently than adults. Assistive technology is used so as to facilitate full participation in the activity for those children who need this support. (P) (AT)

_____

10. Each child has multiple opportunities to perform the target skill during opening/closing activities. These activities are designed to allow full participation for children using assistive technology. (II) (AT) _____

11. Amount of time spent in structured large group is appropriate to children's attention spans (maximum 15 minutes). (P)

_____

12. Staff uses specific cues and prompts for children who have challenging behaviors during structured large group activities. (MB)

_____

13. Staff displays flexibility in being able to change, shorten, or eliminate a prepared group activity that is not working. (P)

_____

14. Staff pays proper attention to children who are less verbal as well as those who are more talkative and demand the attention of adults. Ample opportunity for initiation and interaction is given to children using augmentative communication systems. (II) (AT) _____

15. The daily schedule offers a balance between: (a) active and quiet time, (b) indoor and outdoor time, (c) times for children to select materials (free play) and for teachers to direct activities. (CC)

_____

SMALL GROUP ACTIVITIES (Structured) **Score**

16W. Written lesson plans are available, and are written so that substitute staff can follow them easily, and reflect what occurs when the activity is implemented. Strategies for including use of assistive technology are clearly specified in the lesson plans. (P) (AT)

_____

17. Staff plans and prepares the small group activities, which allow children to learn through active exploration and interactions with adults, other children and materials. (P)

_____

18. Staff has materials out and ready before implementing the activity. This includes adaptive play materials and augmentative communication methods/equipment. (P) (AT) _____

19. Amount of time children are expected to spend in small group activities is appropriate to individual attention spans. (P) _____

20. Active participation of each child is achieved through the use of teacher/therapist strategies such as modifying the activity (task) requirements for partial participation of individual children or using adapted materials within an activity. This includes use of augmentative communication devices. (FS) (AT)

_____

21W. Staff incorporate children's individual goals and objectives into the context of the activity and use the designated methods of instruction appropriately. (CO)

_____

22. Staff provides relevant examples and demonstrations, and gives instructions in language children understand, during small group activities. Augmentative communication systems are used interactively and appropriately so as to facilitate full participation for all children. (II) (AT) _____

23. Each child is an active participant in each small group activity, having multiple opportunities to perform the targeted skill. These activities are designed to allow full participation for children using assistive technology. (II) (AT)

_____

24. Children work in cooperative groups that have a joint purpose, explicit theme of cooperation and shared group (versus individual) objective. (SI) _____

25. Staff models or demonstrates social skills and concepts during small group activities. (SI)

_____

26. Target children are taught specific social skills (e.g., sharing, turn taking, initiating interactions, requesting materials) during structured small group activities. (SI)

_____

27. Target children receive multiple opportunities to rehearse social skills or concepts during small group activities. Assistive technology is structured so as to facilitate natural interactions. (SI) (AT)

_____

28. Staff praises target children for demonstration of social skills or concepts during small group activities. (SI) _____

29. Staff instructs typical peers (i.e., at least one or two peers in a small group) in specific strategies for communicating and interacting with children with disabilities. (SI)

_____

30. Children who function as models or helpers are reinforced for these interactions. (SI)

_____

LARGE GROUP ACTIVITIES (Gross Motor; Free Play) **Score**

31. The curriculum promotes appropriate use of materials and allows children to learn new concepts and skills from their daily interactions in the room. The curriculum is designed to facilitate use of assistive technology to enhance each child's learning and development. (CC) (AT)_____

32. Staff introduces concepts and themes that reflect the community (culture), interests, experiences, and development levels of the children. (CC) _____

33. The classroom has clearly defined and well-equipped interest areas that are arranged to promote independence, foster decision-making, and encourage involvement. This includes the use of adaptive play materials. (PE) (AT)

_____

34. Display of materials is well organized. All materials have specific storage areas. Picture labels are taped to the shelf to help children find and return materials they use. (PE)

_____

35. The variety of materials, equipment, and activities available allow all children to demonstrate "competency" and experience "success". (PE)

_____

36. Toys, materials, and activities are relevant to children's own life experiences, interests, abilities, and reflective of individual cultures. (CC) _____

37. Toys that promote social interaction are present in all play areas. (PE)

_____

38. Selection of materials change over the course of time to challenge and maintain children's interests. (PE)

_____

39W. Staff uses the planning process to individualize cognitive, communicative socio-emotional, and physical learning opportunities for all children across the interest areas (e.g., blocks, dramatic play, etc.). The planning process is used to design intervention strategies which explicitly specify how assistive technology is to be incorporated into all curricular domains. (P) (AT) _____

40. Free play period is long enough to allow for children to select materials, activities, plan what they want to do, and clean up afterward without being rushed. (CC)
_____

41. Staff structures the free play activities to: (a) encourage independent interaction with toys, (b) facilitate social interactions among children, and (c) encourage choice making by children. (FS) _____

42W. Therapy objectives established for children are incorporated into the activities during free play. (CO) _____

43. Staff guides and facilitates children's learning through naturalistic techniques (e.g., modeling, expansion, sabotage) rather than by repeated use of questions and direct instructors. (FS)
_____

44. Staff consistently provides strategies for creating an environment that helps children develop self-control through (a) modeling, (b) redirecting, and (c) encouraging expected behavior. (MB)
_____

45. Staff expectations of behaviors match and respect children's individual and developing capabilities. (MB) _____

46. Staff establishes rules and limits for behavior and applies them appropriately (e.g., "Please walk" vs. "no running), consistently, and calmly in language understandable to each individual child. (MB) _____

47. Staff prompts peers to suggest specific play activities to children with disabilities during free play activities. (SI)
_____

48. Staff prompts peers to persist in their interactions with children with disabilities during free play activities, including interactive use of augmentative communication devices, adaptive play materials, and computer technology. (SI) (AT) _____

49. Staff prompts peers to request materials from children with disabilities during free play activities. (SI)

_____

50. Staff prompts peers to share materials with children with disabilities during free play activities. (SI)

_____

51. Staff praise peers for interacting with children with disabilities during free play activities. (SI)

_____

52W. Staff meet regularly to assess how children are responding to the environment and activities and to decide what changes should be made. (SI)

_____

53W. On-going observation and recording of children's behaviors, interests, skills, progress, and interactions are used to assess and individualize children's programs, and expand the environment. Optimal use of assistive technology is an explicit focus of this assessment. (CO) (AT) _____

TRANSITIONS BETWEEN ACTIVITIES **Score**

54. Scheduling of staff responsibilities ensures that transitions occur smoothly; that immobile children are moved and repositioned as efficiently as possible; and appropriate amounts of structure are provided for children whose behavior tends to deteriorate during nonstructured times. (P)

_____

55. A consistent daily schedule is maintained which allows for flexibility when necessary yet enables children to predict events and develop a basic sense of trust. (P)

_____

56. Staff uses songs to focus children's attention and ease transition times. (FS)

_____

57. Staff use natural cues and prompts to guide children in moving between activities in increasingly independent ways, including use of augmentative communication systems. (FS) (AT)

_____

58. Staff guide (e.g., verbal, physical) in clean up so that all children participate fully of partially. (FS)

_____

59. Natural and planned interactions that occur among children during transitions are reinforced by staff. (SI)

_____

60. Children who require lifting and carrying during transitions or repositioning for activities are moved in alignment, using individualized procedures. (FS)

_____

61. Changes in activities or positions are explained to children (rather than passive involvement from one position to another). (II) _____

62. Each child has an independent or partially assisted form of mobility for use in moving around the classroom (between activities) and between the classroom and other school areas. (FS) _____

63. Staff encourages children to assist each other or work cooperatively during the clean-up transitions. (SI) _____

SNACK **Score**

64. All children have an opportunity to assist fully or partially in snack preparation. Appropriate use of assistive technology is incorporated into the snack routine. (FS) (AT)

_____

65. Staff structures the snack environment to: (a) encourage interactions among children, (b) facilitate appropriate self-help skills, and (c) allow children the opportunity to practice specific social skills (e.g., turn-taking, requesting, responding). (FS)

_____

66. Staff implement procedures to feed children requiring specialized feeding approaches (tube feeding, "therapeutic" techniques). (II) _____

TOILETING **Score**

67. Transitions between toileting and classroom activities are accomplished smoothly with no more than 5 minutes of "down time" for any child. (II) _____

68. Staff follows an organized schedule in taking children who are being toilet trained to the bathroom and maintain appropriate data. (P) _____

69. Staff facilitates all children to partially or fully complete a hand washing routine following toileting. (FS)

_____

70. Children with physical disabilities are positioned appropriately in an adapted potty. (FS)

_____

71. All children are taught how to manage their own clothing as independently as possible. (FS)

_____

CHILDREN WHO REQUIRE ADULT ASSISTANCE FOR ACTIVE PARTICIPATION **Score**

72. Staff is knowledgeable about any other programs in which children are involved and coordinate with those personnel, as appropriate and designated by the Team Leader. (F) _____

73. Staff implement specific behavior management programs only after review by all team members. (MB)

_____

74W. Data (baseline measures, anecdotal notes) are maintained and used to evaluate/revise all behavior management programs being implemented with children. (II)

_____

75. Targeted skills for children with physical and/or sensory disabilities represent skills that are critical to the needs of the child and allow for maximum participation in daily activities. (CO)

_____

76. Therapeutic methods for managing children's muscle tone and atypical patterns of movement are incorporated into daily activities by all staff. (II) _____

77. Children with delayed dysfunctional postures are positioned in alignment curing classroom activities to promote maximum independence and participation. (FS) _____

78. Children with physical disabilities have adaptive equipment necessary for positioning in floor sitting, chair sitting, potty training, and standing. Children are positioned so as to make optimal use of appropriate assistive technology in all parts of the classroom routine. (II) (AT) _____

79. All children with sensory impairments have been provided with appropriate corrections (e.g., hearing aids, glasses, etc.) (FS)

_____

80. All non-speaking children have a designated form of communication (e.g., sign, communication boards, technological device) which is used to interact with children and adults in the classroom. (II)

_____

81. All staff are able to use assistive technology (e.g., positioning equipment, augmentative communication devices, computers, adaptive play materials) appropriately and to integrate their use across the curriculum. (FS) (AT) _____

82. All children requiring augmentative communication have appropriate "low tech" (e.g., choice boards) or "high tech" (e.g., communication device). Adaptive play materials (play boards, play frames, switches) are availlable as needed by individual children. (II) (AT)

_____

Quality Indicators: Items by Practice Categories

Date: _____ Observer: _____ Observation #: _____

Area	Total Possible	Percent
Family Centered Services (F) (5) items)	10	
Social Integration (SI) (14 items)	28	
Child Outcomes (CO) (3 items)	6	
Management of Behavior (7 items)	14	
Curriculum Content (CC) (7 items)	14	
Planning (P) (12 items)	24	
Instructional Integration (II) (13 items)	22	
Facilitating Strategies (FS) (17 items)	34	
Physical Environment (PE) (5 items)	10	
Assistive Technology (AT) (21 items)	42	
TOTALS		

**Divide Score by Total Possible*

Strong Areas: _____

_____

_____

Areas of Future Focus:

1. _____

2. _____

3. _____

FAMILY-CENTERED SERVICES (F)(5 items) **Score**

1. Interactions among parents and staff communicate information and concerns (behavior, medical needs, etc.) about children in a positive manner. (F)

_____

2W. Staff maintains on-going communications with families through formal (meetings) and informal (daily or weekly notes) contact to acquire information that will help children to be more active participants in classroom activities. (F)

_____

3. Staff encourages family involvement in the daily program. Parents are encouraged to volunteer, or participate in the program by sharing a skill/interest or some aspect of their cultural heritage. (F) _____

4W. Staff support and help families by providing information that addresses areas of interest/concern identified by families. (F)

_____

72. Staff are knowledgeable about any other programs in which children are involved and coordinate with those personnel, as appropriate and designated by the Team Leader. (F) _____

SOCIAL INTEGRATION (SI) (14 items) **Score**

24. Children work in cooperative groups that have a joint purpose, explicit theme of cooperation and shared group (versus individual) objective. (SI)_____

25. Staff models or demonstrates social skills and concepts during small group activities. (SI)

_____

26. Target children are taught specific social skills (e.g., sharing, turn-taking, initiating interactions, requesting materials) during structured small group activities. (SI)

_____

27. Target children receive multiple opportunities to rehearse social skills or concepts during small group activities. Assistive technology is structured so as to facilitate natural interactions. (SI) _____

28. Staff praises target children for demonstration of social skills or concepts during small group activities. (SI)

_____

29. Staff instructs typical peers (i.e., at least one or two peers in a small group) in specific strategies for communicating and interacting with children with disabilities. (SI)

_____

30. Children who function as models or helpers are reinforced for these interactions. (SI)

_____

47. Staff prompts peers to suggest specific play activities to children with disabilities during free play activities. (SI)

_____

48. Staff prompts peers to persist in their interactions with children with disabilities during free play activities, including interactive use of augmentative communication devices, adaptive play materials, and computer technology. (SI)

_____

49. Staff prompts peers to request materials from children with disabilities during free play activities. (SI)

_____

50. Staff prompts peers to share materials with children with disabilities during free play activities. (SI)

_____

51. Staff praise peers for interacting with children with disabilities during free play activities. (SI)

_____

59. Natural and planned interactions that occur among children during transitions are reinforced by staff. (SI)

_____

63. Staff encourage children to assist each other or work cooperatively during the clean-up transitions. (SI) _____

CHILD OUTCOMES (CO) (3 items) **Score**

21W. Staff incorporate children's individual goals and objectives into the context of the activity and use the designated methods of instruction appropriately. (CO)

_____

53W. On-going observation and recording of children's behaviors, interests, skills, progress, and interactions are used to assess and individualize children's programs, and expand the environment. Optimal use of assistive technology is an explicit focus of this assessment. (CO) _____

75. Targeted skills for children with physical and/or sensory disabilities represent skills that are critical to the needs of the child and allow for maximum participation in daily activities. (CO) _____

MANAGEMENT OF BEHAVIOR (MB) (7 items) **Score**

5. Appropriate positive management routines are implemented for children who have difficulty separating from parents on entering the classroom. (MB)
_____

12. Staff uses specific cues and prompts for children who have challenging behaviors during structured large group activities. (MB) _____

44. Staff consistently provides strategies for creating an environment that helps children develop self-control through (a) modeling, (b) redirecting, and (c) encouraging expected behavior. (MB)
_____

45. Staff expectations of behaviors match and respect children's individual and developing capabilities. (MB)
_____

46. Staff establishes rules and limits for behavior and applies them appropriately (e.g., "Please walk" vs. "no running), consistently, and calmly in language understandable to each individual child. (MB) _____

73. Staff implement specific behavior management programs only after review by all team members. (MB)
_____

74W. Data (baseline measures, anecdotal notes) are maintained and used to evaluate/revise all behavior management programs being implemented with children. (II)
_____

CURRICULUM CONTENT (CC) (7 items) **Score**

7. Opening and closing activities allow children to express themselves through discussion, song, movement, and dance. Assistive technology is incorporated in opening and closing activities so as to facilitate each child's self-expression. (CC) _____

15. The daily schedule offers a balance between: (a) active and quiet time, (b) indoor and outdoor time, (c) times for children to select materials (free play) and for teachers to direct activities. (CC)

_____

31. The curriculum promotes appropriate use of materials and allows children to learn new concepts and skills from their daily interactions in the room. The curriculum is designed to facilitate use of assistive technology to enhance each child's learning and development. (CC) _____

32. Staff introduces concepts and themes that reflect the community (culture), interests, experiences, and development levels of the children. (CC)

_____

36. Toys, materials, and activities are relevant to children's own life experiences, interests, abilities, and reflective of individual cultures. (CC) _____

40. Free play period is long enough to allow for children to select materials, activities, plan what they want to do, and clean up afterward without being rushed. (CC)

_____

42W. Therapy objectives established for children are incorporated into the activities during free play. (CO)

_____

PLANNING (P) **(12 items)** **Score**

9. Each child is an active or partial participant in opening/closing activities for the majority of the time. Children participate more frequently than adults. Assistive technology is used so as to facilitate full participation in the activity for those children who need this support. (P) _____

11. Amount of time spent in structured large group is appropriate to children's attention spans (maximum 15 minutes). (P) _____

13. Staff displays flexibility in being able to change, shorten, or eliminate a prepared group activity that is not working. (P)

_____

16W. Written lesson plans are available, and are written so that substitute staff can follow them easily, and reflect what occurs when the activity is implemented. Strategies for including use of assistive technology are clearly specified in the lesson plans. (P)

_____

17. Staff plans and prepares the small group activities which allow children to learn through active exploration and interactions with adults, other children and materials. (P)

_____

18. Staff have materials out and ready before implementing the activity. This includes adaptive play materials and augmentative communication methods/equipment. (P)

_____

19. Amount of time children are expected to spend in small group activities is appropriate to individual attention spans. (P)

_____

39W. Staff use the planning process to individualize cognitive, communicative socio-emotional, and physical learning opportunities for all children across the interest areas (e.g., blocks, dramatic play, etc.). The planning process is used to design intervention strategies which explicitly specify how assistive technology is to be incorporated into all curricular domains. (P)

_____

52W. Staff meet regularly to assess how children are responding to the environment and activities and to decide what changes should be made. (SI)

_____

54. Scheduling of staff responsibilities ensures that transitions occur smoothly; that immobile children are moved and repositioned as efficiently as possible; and appropriate amounts of structure are provided for children whose behavior tends to deteriorate during nonstructured times. (P)

_____

55. A consistent daily schedule is maintained which allows for flexibility when necessary yet enables children to predict events and develop a basic sense of trust. (P)

_____

68. Staff follow an organized schedule in taking children who are being toilet trained to the bathroom and maintain appropriate data. (P) _____

INSTRUCTIONAL INTEGRATION (II) (11 Items) Score

8. Individualized group instruction is implemented to allow each child to be an active participant during large group activities. Augmentative communication methods/equipment is used interactively and appropriately so as to facilitate full participation for each child. (II)

_____

10. Each child has multiple opportunities to perform the target skill during

opening/closing activities. These activities are designed to allow full participation for children using assistive technology. (II) _____

14. Staff pays proper attention to children who are less verbal as well as those who are more talkative and demand the attention of adults. Ample opportunity for initiation and interaction is given to children using augmentative communication systems. (II) _____

22. Staff provide relevant examples and demonstrations, and give instructions in language children understand, during small group activities. Augmentative communication systems are used interactively and appropriately so as to facilitate full participation for all children. (II) _____

23. Each child is an active participant in each small group activity, having multiple opportunities to perform the targeted skill. These activities are designed to allow full participation for children using assistive technology. (II)
_____

61. Changes in activities or positions are explained to children (rather than passive involvement from one position to another). (II)
_____

66. Staff implement procedures to feed children requiring specialized feeding approaches (tube feeding, "therapeutic" techniques). (II) _____

67. Transitions between toileting and classroom activities are accomplished smoothly with no more than 5 minutes of "down time" for any child. (II) _____

76. Therapeutic methods for managing children's muscle tone and atypical patterns of movement are incorporated into daily activities by all staff. (II) _____

78. Children with physical disabilities have adaptive equipment necessary for positioning in floor sitting, chair sitting, potty training, and standing. Children are positioned so as to make optional use of appropriate assistive technology in all parts of the classroom routine. (II) _____

80. All non-speaking children have a designated form of communication (e.g., sign, communication boards, technological device) which is used to interact with children and adults in the classroom. (II)
_____

82. All children requiring augmentative communication have appropriate "low tech" (e.g., choice boards) or "high tech" (e.g., communication device). Adaptive play materials (play boards, play frames, switches) are available as needed by individual children. (II)
_____

FACILITATING STRATEGIES (FS) (17 Items) **Score**

6. Each child is being taught the routine associated with entering the classroom and following the class routine. (FS)

_____

20. Active participation of each child is achieved through the use of teacher/therapist strategies such as modifying the activity (task) requirements for partial participation of individual children or using adapted materials within an activity. This includes use of augmentative communication devices. (FS)

_____

41. Staff structures the free play activities to: (a) encourage independent interaction with toys, (b) facilitate social interactions among children, and (c) encourage choice making by children. (FS)

_____

43. Staff guide and facilitate children's learning through naturalistic techniques (e.g., modeling, expansion, sabotage) rather than by repeated use of questions and direct instructors. (FS)

_____

56. Staff uses songs to focus children's attention and ease transition times. (FS)

_____

57. Staff use natural cues and prompts to guide children in moving between activities in increasingly independent ways, including use of augmentative communication systems. (FS)

_____

58. Staff guide (e.g., verbal, physical) in clean-up so that all children participate fully of partially. (FS)

_____

60. Children who require lifting and carrying during transitions or repositioning for activities are moved in alignment, using individualized procedures. (FS) _____

62. Each child has an independent or partially assisted form of mobility for use in moving around the classroom (between activities) and between the classroom and other school areas. (FS) _____

64. All children have an opportunity to assist fully or partially in snack preparation. Appropriate use of assistive technology is incorporated into the snack routine. (FS) _____

65. Staff structures the snack environment to: (a) encourage interactions among children, (b) facilitate appropriate self-help skills, and (c) allow children the opportunity to practice specific social skills (e.g., turn-taking, requesting, responding). (FS)

_____

69. Staff facilitate all children to partially or fully complete a hand-washing routine following toileting. (FS)

_____

70. Children with physical disabilities are positioned appropriately in an adapted potty. (FS)

_____

71. All children are taught how to manage their own clothing as independently as possible. (FS)

_____

77. Children with delayed dysfunctional postures are positioned in alignment curing classroom activities to promote maximum independence and participation. (FS)

_____

79. All children with sensory impairments have been provided with appropriate corrections (e.g., hearing aids, glasses, etc.) (FS) _____

81. All staff are able to use assistive technology (e.g., positioning equipment, augmentative communication devices, computers, adaptive play materials) appropriately and to integrate their use across the curriculum. (FS)

_____

PHYSICAL ENVIRONMENT (5 Items) **Score**

33. The classroom has clearly defined and well-equipped interest areas that are arranged to promote independence, foster decision-making, and encourage involvement. This includes the use of adaptive play materials. (PE)

_____

34. Display of materials is well organized. All materials have specific storage areas. Picture labels are taped to the shelf to help children find and return materials they use. (PE)

_____

35. The variety of materials, equipment, and activities available allow all children to demonstrate "competency" and experience "success". (PE)_____

37. Toys that promote social interaction are present in all play areas. (PE)

_____

38. Selection of materials change over the course of time to challenge and maintain children's interests. (PE)

_____

ASSISTIVE TECHNOLOGY (AT) (25 Items) **Score**

7. Opening and closing activities allow children to express themselves through discussion, song, movement, and dance. Assistive technology is incorporated in opening and closing activities so as to facilitate each child's self-expression. (AT) _____

8. Individualized group instruction is implemented to allow each child to be an active participant during large group activities. Augmentative communication methods/equipment is used interactively and appropriately so as to facilitate full participation for each child. (AT)

_____

9. Each child is an active or partial participant in opening/closing activities for the majority of the time. Children participate more frequently than adults do. Assistive technology is used so as to facilitate full participation in the activity or those children who need this support. (AT)

_____

10. Each child has multiple opportunities to perform the target skill during opening/closing activities. These activities are designed to allow full participation for children using assistive technology. (AT) _____

14. Staff pays proper attention to children who are less verbal as well as those who are more talkative and demand the attention of adults. Ample opportunity for initiation and interaction is given to children using augmentative communication systems. (AT) _____

16W. Written lesson plans are available, and are written so that substitute staff can follow them easily, and reflect what occurs when the activity is implemented. Strategies for including use of assistive technology are clearly specified in the lesson plans. (AT)

_____

18. Staff have materials out and ready before implementing the activity. This includes adaptive play materials and augmentative communication methods/equipment. (AT)

_____

20. Active participation of each child is achieved through the use of teacher/therapist strategies such as modifying the activity (task) requirements for partial participation of individual children or using adapted materials within an activity. This includes use of augmentative communication devices. (AT)

_____

22. Staff provide relevant examples and demonstrations, and give instructions in language children understand, during small group activities. Augmentative communication systems are used interactively and appropriately so as to facilitate full participation for all children. (AT)

_____

23. Each child is an active participant in each small group activity, having multiple opportunities to perform the targeted skill. These activities are designed to allow full participation for children using assistive technology. (AT)

_____

27. Target children receive multiple opportunities to rehearse social skills or concepts during small group activities. Assistive technology is structured so as to facilitate natural interactions. (AT) _____

31. The curriculum promotes appropriate use of materials and allows children to learn new concepts and skills from their daily interactions in the room. The curriculum is designed to facilitate use of assistive technology to enhance each child's learning and development. (AT)

_____

33. The classroom has clearly defined and well-equipped interest areas that are arranged to promote independence, foster decision-making, and encourage involvement. This includes the use of adaptive play materials. (AT)

_____

39W. Staff use the planning process to individualize cognitive, communicative socio-emotional, and physical learning opportunities for all children across the interest areas (e.g., blocks, dramatic play, etc.). The planning process is used to design intervention strategies which explicitly specify how assistive technology is to be incorporated into all curricular domains. (AT)_____

48. Staff prompts peers to persist in their interactions with children with disabilities during free play activities, including interactive use of augmentative communication devices, adaptive play materials, and computer technology. (AT)

_____

53W. On-going observation and recording of children's behaviors, interests, skills, progress, and interactions are used to assess and individualize children's programs, and expand the environment. Optimal use of assistive technology is an explicit focus of this assessment. (AT)

57. Staff use natural cues and prompts to guide children in moving between activities in increasingly independent ways, including use of augmentative communication systems. (AT)

_____

64. All children have an opportunity to assist fully or partially in snack preparation. Appropriate use of assistive technology is incorporated into the snack routine. (AT)

_____

78. Children with physical disabilities have adaptive equipment necessary for positioning in floor sitting, chair sitting, potty training, and standing. Children are positioned so as to make optimal use of appropriate assistive technology in all parts of the classroom routine. (AT)

_____

81. All staff are able to use assistive technology (e.g., positioning equipment, augmentative communication devices, computers, adaptive play materials) appropriately and to integrate their use across the curriculum. (AT)

_____

82. All children requiring augmentative communication have appropriate "low tech" (e.g., choice boards) or "high tech" (e.g., communication device). Adaptive play materials (play boards, play frames, switches) are available as needed by individual children. (AT)

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CONSIDERATIONS IN BEST PRACTICES

Once the checklist has been recast with respect to categories of practice known to influence or impact upon children's learning it is possible to examine programmatic areas of strength and weaknesses in this regard. Based on findings, program staff may consider modifications and/or enhancements in various areas. The following sections provide an overview of the categorical practice areas as well as suggestions for optimal implementation.

Family Centered Services

While child rearing is a challenge for all families, families of children with disabilities are faced with especially challenging roles. They must be both parents and advocates for their children. Professionals working with families must maintain an objective role, yet be caring and sensitive to the family needs, in order to provide effective intervention services. Young children, including those with disabilities, spend a majority of time within the family setting and it is important for professionals to understand and acknowledge the central role a child's family plays in his/her development. Accordingly, family members must be considered integral and essential members of the team. From a legal standpoint, PL 99-457, the Education of the Handicapped Act Amendment of 1986, mandates the participation of family members to the fullest extent possible when planning and implementing services for young children with disabilities and since passage of this law, family-centered services have been increasingly regarded as a key quality indicator for early childhood services. Although professionals are aware of the legal and theoretical implications of providing family-centered services, most would agree that day to day implementation of this component presents its share of challenges and obstacles. The goal of family-centered services in preschool programs for children with disabilities must be to provide meaningful and relevant opportunities for family participation.

Developing and Maintaining Communication

It is critical for professionals to maintain on-going communication with families. For working parents who have limited opportunities to visit the classroom, regular feedback from professionals is very important. In addition, with most children receiving transportation services, parents no longer have the opportunity for day to day, face to face communication with the professionals working with

their children. Through the use of daily or weekly notes, parents can stay informed about their children's programming and make decisions about areas in which they may desire more or less involvement. Some teachers and parents have found it helpful to have a notebook to send back and forth with the child on a daily basis. When providing parents with feedback regarding their children's behavior, progress etc., professionals should remember to relate information in a positive manner. For example, it would be more positive to say "Billy had some difficulty getting along with a friend today. We were able to resolve the problem by talking about it." as opposed to "Billy was a bad boy today. He hit another child in the class." The use of a notebook to exchange information not only serves as information for the family, but allows professionals to receive daily information pertaining to children's lives at home. Parents, through the use of the notebook, can provide teachers with valuable information that may help them in working with the child. This may be in regard to the child's specific likes and dislikes in terms of food items, toys, and activities; special events at home such as a visit from grandma; or information concerning any special medical needs (i.e., breathing, medication, seizures, etc.).

Providing Opportunities for Regular Meetings

Opportunities for family involvement should go beyond the development of the IEP at the annual meeting. Optimally, families should have the opportunity to meet face to face with professionals on at least a monthly basis, and more frequently if desired. During this meeting, family members should be treated as true collaborators with an expertise to contribute regarding their children. Family members whose input and suggestions are valued are more able to participate in enhancement of their children's development. Accordingly, professionals should take care to ensure that the families are not merely listening to the professionals' discussions of their child's progress. Rather, families should be provided with opportunities to report their observations, voice their concerns, and provide input regarding their children's progress and program plans. Family members' knowledge of children's strengths and weaknesses can be helpful to professionals in planning intervention procedures. For example, the other team members may feel a priority for Mark is to begin participating in fingerplays and songs at circle time. Upon hearing this, his mother may be able to offer a suggestion such as "At home, Mark enjoys using the puppets while we sing" to assist

the team in prompting Mark to participate in singing activities. Her concern, on the other hand, may be with Mark's ability to understand and follow directions.

Although it may not be possible for the team to meet monthly with every family, a genuine effort should be made to let families know they may schedule a meeting whenever the need arises. For some families, the opportunity to meet with professionals may be extremely crucial if they are feeling overwhelmed or confused about how to deal with their child. Sometimes family members need a sensitive listener who has the expertise to offer some constructive help and information (Peterson, 1987; Webster & Ward, 1993). Other families may want some information on how to work with their children at home. Professionals must make every attempt to accommodate families requests for a formal meeting with the team. Without on-going communication between team and family members, the optimal effects of early intervention efforts cannot be achieved.

Providing Varied Opportunities for Involvement

Although the nature and intensity of involvement will vary from family to family, professionals must make every attempt to facilitate involvement of families in children's programming. The elements of flexibility, individualization, and alternatives should be considered by professionals when offering different options to families. Whereas some families may instantly take an active role in the IEP process, others may need the opportunity to interact with professionals in a less threatening situation.

Provision of regular opportunities for families to observe and volunteer in the classroom can be beneficial to both families and professionals in getting to know each other and exchanging information about children. By providing opportunities to observe or volunteer, families are able to see how professionals deal with similar problems or difficulties children may be displaying at home. For example, upon observing her son getting in and out of his chair during snack time, Mrs. Roberts might say,

> "Jonathan will never sit at the table to eat at home so I just let him wander around while he eats his food. It drives my husband crazy but I've never known what to do about it. It really seems to help when you remove the food from his hand when he gets up to walk away from the table and then give it to him after you lead him back to

his chair. I guess that helps him to learn if he wants to eat, he needs to sit down like everyone else."

When planning opportunities for parents to observe, it is important for professionals to choose activities in which children can demonstrate some success. It can be very depressing for parents to watch children experience repeated failures. During the observation, professionals should provide parents with information relative to the purpose of the activity, children's individual objectives within the activity, and the therapeutic or educational strategies being used to facilitate learning. When volunteering in the classroom, parents should be allowed to take an active role such as sharing a special activity or teaching the children a song. Although some parents may initially want to take a passive role until they feel more comfortable with the class routine, it is important they do not feel they are permanently assigned to jobs such as wiping the tables or cutting out materials for art projects.

Through the use of parent in-service meetings, professionals can support and help families by providing information that addresses areas of concern and/or interest that have been identified by families. Professionals might send out a survey at the beginning of the year to determine what topics are of interest to families (i.e., behavior management, legal considerations for children with disabilities, etc.). These meetings can also serve as an informal opportunity for families to meet and talk with each other as well as professionals. Preferably, meeting times should be alternated between afternoon and evening slots to accommodate the various schedules of families.

Social Integration

The ability to relate and interact appropriately is crucial to the formation and maintenance of relationships with other people and maximum opportunities for learning appropriate social behaviors should be an integral part of programming for young children with disabilities. In many respects, the opportunity to learn socially appropriate behavior and interactive strategies is a primary benefit that children with disabilities derive from inclusive educational programs. Through interactions with others, children are able to learn appropriate social and language skills. However, simply placing children with and without disabilities in physical proximity does not ensure that the children will

engage in meaningful interactions with each other (Jenkins, Speltz, & Odom, 1985). Professionals working with young children with disabilities must create opportunities which help to facilitate interactions among children (Jenkins et al., 1985; McClean, 1990; Odom & McEvoy, 1988). Within the classroom setting teachers can promote social interactions among children by arranging the environment, providing materials and activities which promde interactions, using adult prompts, and training typical peers.

Arranging the Environment

Staff can significantly influence interactions among children with disabilities and their typical peers through environmental arrangements. A key aspect of these arrangements is to make sure that the children will have physical contact with each other during activities. For example, teachers can arrange placemats during snack or carpet squares during circle time so that typical peers are seated in such a way tofacilitate serving as peer models. This will allow teachers to take advantage of naturally occurring opportunities to promote interactions such as requesting assistance, directing attention, and so on. Although the large group setting may be appropriatefor such activities as singing songs and music and movement activities, opportunities for facilitating social interactions may be easier to accomplish in a small group setting. Within small group activities, teachers should include typical peers to serve as models for social and language development. Teachers should also remember to include only one child who requires a great deal of adult assistance within any small group activity. Otherwise, the teacher may become overwhelmed in dealing with these children and be forced to ignore needs of other children in the group. When including a child who requires a lot of adult assistance, it is helpful if an additional person is available to assist the child while the teacher provides the opportunities for individual child participation within the activity. Typical peers can also be seated next to children to facilitate their participation. For example, a typical peer may hold the bubble wand to encourage and assist another child in blowing bubbles. Typical children who serve as peer models or helpers should always be reinforced by teachers for their interactions. The use of positive reinforcement in the form of a verbal praise such as "Joseph really likes it when you blow bubbles to him" will most likely result in an increase in typical peers attempts to initiate interactions with peers with disabilities. Daily routines can also be structured to

facilitate natural interactions among children. Transition times such as clean up, walking to the playground, and preparing to go home can be used to promote interactions. This may be accomplished in many ways including children assisting each other in cleaning the room or putting on jackets, holding hands while walking to the playground, or pushing a peer's wheelchair.

Selecting Activities and Materials to Promote Peer Interactions

The selection of materials and structure of activities can be done in such a manner to promote natural interactions among children. By providing materials and equipment which facilitate the natural occurrence of interactions such as a wagon and blocks, children can be encouraged to play together while teachers facilitate the learning of appropriate social and language skills. Activities such as cooking and simple games (i.e., Duck, Duck, Goose; Musical Chairs, etc.) can also be structured to encourage interactions among children. By limiting materials such as cups and spoons during cooking activities, the teacher structures the activity to allow for natural opportunities for children to learn requesting, turn-taking, and responding to others directions. Large group activities can also be used to promote interactions among peers by modifying traditional preschool songs and games designed to encourage physical and social contact.

Adult Prompting

Frequent and natural social prompts can be used by teachers to facilitate interactions among children. Through careful observation teachers can take advantage of naturally occurring opportunities to reinforce social interactions among children. During free play for example, the teacher can provide prompts such as "The both of you really know how to build a house with blocks" or "That box was heavy, it was a good idea for both of you to carry it." Teachers can also use social prompts to encourage interactions among children. During sand play, the teacher may encourage peers to assist each other by saying "Tommy, Amanda looks like she's having a hard time carrying that big bucket of sand. Maybe you can ask her if she needs some help?" or "What could you do to help?". Teachers may also facilitate social interactions through redirection of child-teacher initiations. Children with disabilities have been observed to initiate interaction infrequently with peers and more frequently with adults. Teacher redirection of these attempts to typical peers may promote more initiations to peers. For example, a child may request assistance from the

teacher during an art activity. Rather than complying the teacher can redirect the initiation to a peer as in "Why don't you ask Mary to help you get the paper?"

Peer Training

Within the context of structured activities such as large and small group, typical peers can be "trained" or taught to function as peer tutors for children with disabilities. Children enjoy helping others and will usually respond favorably to teachers' requests to help others. Through the use of peer-mediated instructional strategies, children with disabilities can acquire specific skills and social interaction competencies (McHale, 1983; Odom & Strain, 1984; Wahler, 1976). Peer mediated intervention involves the use of typical peers to promote social interactions and play through strategies including peer management and peer modeling. The most well known peer management strategy is the "Peer Social Interaction Technique (Kohler & Strain, 1990). This strategy involves training a typical peer to initiate social interactions with a peer who has a disability through direct instruction, role-playing, prompts, and reinforcement. Although this method may be somewhat intensive and time consuming, positive effects have been shown for both groups of children. Another method, referred to as peer-imitation training (Apolloni & Cooke, 1978; Apolloni, Cooke & Cooke, 1977; Peck, Apolloni, Cooke, & Raver, 1978), involves a procedure in which verbal and physical prompts are used to encourage imitation of peer behaviors in the context of play activities. Adult praise is used to reinforce behaviors and then gradually faded, as children become more responsive.

Child Outcomes

Research has indicated that positive developmental outcomes for preschoolers in integrated programs are related closely to the curriculum used and to the quality of instructions (e.g., Odom & McEvoy, 1988; McClean, 1990). Classrooms which are designed to promote child engagement are more likely to contribute to an increase in children's participation in developmentally appropriate activities with materials, peers, and adults. Children's abilities to acquire, maintain, and generalize skills in the context of these activities however, are dependent upon the arrangement of the physical environment and social environment, and the instructional practices used to facilitate learning.

Physical and Social Environment

The physical environment refers to the physical arrangement of the room including furniture and materials. The social environment refers to the individuals present in the environment as well as the pattern and quality of interactions among the individuals. In order for children with disabilities to learn from their interactions within the environment, it is first necessary to determine what skills are critical in helping to increase their participation in interactions with materials, activities, and peers. For example, children with physical disabilities may need to learn how to access a switch on an augmentative device to indicate their desire for food during snack or participate in an activity during group. Through on-going observation of children's behaviors, interests, skills, progress, and interactions teachers are able to individualize children's programs through arrangement of the physical and social environment. For example, it may be necessary to provide more materials with different textures for children with visual impairments. Likewise, materials which provide a great deal of auditory stimulation (i.e., musical toys, instruments, etc.) would be appropriate for children with hearing impairments.

Instructional Practices

It is important for therapy (i.e., speech, physical and occupational therapy) objectives and instructional practices to be implemented within the context of the daily activities and routines of the classroom to ensure children's meaningful participation within these activities. By implementing therapy objectives within the context of meaningful activities, children are more able to generalize skills to other contexts. For example, mealtime serves as a natural context for teaching children self help skills such as eating and social skills such as saying "please" and "thank you". Classroom based instruction also ensures that skills critical to children's participation will be targeted. In working with children with physical disabilities for example, it would be important to incorporate a specific movement pattern in order to help them to have access to a specific material during play. Within the context of daily activities, there should also be a balance between child-directed and teacher-directed activities. The use of naturalistic teaching strategies (e.g., milieu teaching) is also generally more effective than didactic instructional methods.

Management of Behavior

Children with disabilities may often challenge teachers in terms of the type and frequency of

inappropriate behaviors. Teachers must carefully examine the dynamics of the classroom situation before assuming the problem is arising solely from the individual. This is true in preventing as well as reducing inappropriate behaviors in children with disabilities. Through assessment of the physical environment, including adult behavior, necessary modifications can be made to encourage appropriate and acceptable behavior in children. However, for some children with disabilities, direct intervention in the form of individual behavior modification plans may be necessary to limit disruptive behaviors. Team members can assist children in modifying their behaviors through careful planning and on-going assessment of the plan.

Preventing Disruptive Behavior

It is important for teachers to plan and organize the learning environment to encourage positive behavior in children. Considerations in planning should include the length and content of structured groups, the number and structure of transitions, developmental levels of individual children, teacher expectations, and the rules and limits placed on children. Staff flexibility is crucial in preventing and eliminating behavior problems as they arise. For example, children who have difficulty sitting and attending during group activites may be communicating to adults that the activity is too long or inappropriate to their developmental level. Teachers who are sensitive to these warning signs can make the necessary changes and modifications either by ending the activity or increasing opportunities for participation of the children. Teachers may sometimes expect children to wait for extended periods of time before activities begin or opportunities for turn taking are provided. Teachers can decrease the likelihood of behavioral problems by having materials and activities ready in advance and avoidance of lengthy demonstrations and discussions. Transitions between activities can also increase the occurrence of disruptive behavior in children. Teachers should be careful to limit the number of transitions when planning the daily schedule. This may be accomplished by allowing children to move naturally to the next activity when they are ready. For example, children can immediately sit down at the snack table after washing their hands versus returning to the group situation and waiting for others to finish. Teachers can also promote positive behavior in children by establishing and applying rules and limits appropriate to their individual levels. These rules should be stated in a manner which is positive and tells children what behavior

is expected. For example, by saying, "Please walk" as opposed to "No running", children are provided with a positive alternative behavior. Teachers can also promote positive behavior in children by encouraging expected behaviors through prompts and cues such as "When you put your cup on the table, I can pour you some juice." During play activities, teachers can model appropriate behaviors such as waiting for a turn and asking children "Can I use the black truck after you're finished playing with it" or "When you're done it will be my turn."

Modifying Disruptive Behavior

For some children it may be necessary to develop individual behavior modification plans. However, prior to an attempt to modify disruptive behaviors in individual children, it is important for staff members to meet and develop a behavior modification plan. This will ensure that inappropriate behaviors are managed systematically and consistently by all staff members. Strategies for modifying disruptive behavior should never be aversive or punishing. Examples of aversive strategies include calling children names, grabbing children by the arm, or putting a hand over children's mouths. Appropriate strategies would include ignoring or redirecting negative behaviors, or removing children from situations for brief periods of time. Behavioral plans should be reviewed and evaluated by all staff members on a regular basis to determine if modifications are necessary. Data in the form of baseline measures, anecdotal notes, etc., should be maintained and reviewed by all team members on a regular basis to determine if modifications are necessary.

Curriculum Content

The content of the curriculum should reflect the philosophy, goals, and objectives of the program. It is through the goals and objectives of the program that teachers are able to plan and implement the curriculum. Goals and objectives indicate precisely what children are expected to learn and provide a way to assess children's growth and progress during the course of the year. If goals and objectives are based on a philosophical theory of learning, classroom personnel are able to develop activities and implement strategies which facilitate cognitive, socio-emotional, and physical growth in children. The basic structure of the curriculum should be developmentally appropriate while addressing the interests and needs of individual children. This means that the environment, activities, and interactions must be based upon the teacher's knowledge of children's

individual developmental levels and interests. Because children "learn by doing", teacher-directed activities should be limited with the major emphasis placed on opportunities for child-initiated play, active exploration, and making choices. Opportunities to practice "old skills" and acquire "new skills" should be provided within the context of children's interactions with materials, activities, peers, and adults (Dodge, 1988).

Organization of the Daily Schedule

The daily schedule includes events which take place in the classroom. It provides specific times for events to occur in order to help children and adults organize the day. Consistency and predictability are important characteristics of the daily routine. Consistency helps children maintain order in their lives and make predictions concerning their actions. It also allows children to build trust in the environment. By providing a predictable sequence of events such as "first we have group then we have free play", children develop a sense of time, as well as independence and control over their environment. When developing a daily class schedule, teachers should offer a balance between active and quiet time; indoor and outdoor play; and structured free play and group activities. Adequate time should also be allotted for arrival and departure, toileting, transitions, and snack. Free play period(s) should be long enough for children to select materials and activities, carry out their plan, and clean up. Large group activities should allow children to learn through song, movement, dance, and brief discussion. Children's participation and independence can also increased by establishing routines within large group activities such as the opening and closing circle. The following is an example of a routine which could be followed during the opening circle.

1. Greet children and sing the opening song.
2. Child chooses a song from the songbook.
3. Children sing the song.
4. Children participate in a movement and music activity (i.e., Hokey-Pokey, etc.)
5. Child chooses a song from the songbook.
6. Teacher presents options for free play on a choice board.
7. Children take turns making a choice and then transition to the activity.

Planning Themes

When choosing a theme for learning, teachers usually choose topics they may feel are appropriate and motivating to young children such as animals, seasons of the year, holidays, etc. They then generate a number of activities related to the topics. When planning a theme teachers must take into account children's interests and experiences. For example, although the teacher may think it is important for children to learn about the topic "Seasons of the Year" children may not understand or be interested because of their limited experience and knowledge about the topic. It is best for teachers to choose topics that children have expressed an interest in learning or have been exposed to previously. Learning develops from the familiar to the unfamiliar, and teachers must find opportunities to build upon what children already know about their world in order to help them acquire more knowledge. For example, by using themes which focus around the child's world such as "My Friends", "My Family", "My Body", children are more likely to acquire knowledge about these topics because they are meaningful. Within the context of developmentally appropriate small and large group, and free play activities, children can acquire knowledge and skills appropriate to their developmental level. For some children, it may be learning to establish "friendships" through social interactions during free play, while for others it may be learning what their body can do such as jumping, walking, or hopping during music and movement activities; or learning to ride a tricycle during outdoor play.

Daily Activities

Within the daily schedule of opening, free play, small group, etc., children should have the opportunity to engage in hands-on, experiential based activities. These activities should allow children to acquire new concepts and skills while interacting with materials and peers. For example, a large group activity associated with the topic "My Friends" might focus on developing social skills by learning how to greet friends. Children are provided with opportunities to participate at their own levels through individualization of activities. For example, a child with a severe physical disability may be prompted to establish eye contact and smile when a typical peer greets him. This activity not only teaches functional skills to children with disabilities, but can also serve to familiarize the typical peers with ways to prompt and establish contact with children with disabilities. Additional large group activities may include singing songs to learn peers names or playing "Follow Our

Friend" (i.e., imitating friends movements). Transitions can be structured for children to learn how to "help friends" during clean up, walking to the playground or putting on jackets. Children can also be encouraged to bring in their toys from home to "share" with friends during free play.

Planning

For children with disabilities to derive maximum benefit, it is important for the planning process to extend beyond generating themes (i.e., Animals, Transportation, etc.) and designing related activities (i.e., painting a zebra, etc.). Although the teacher may plan the basic format, including the themes and general activities, other team members must be available to provide their input to ensure activities are individualized according to children's individual objectives. The planning process should take place on a regular basis to assess how children are responding to the environment and activities and to decide what changes may be necessary. Within the integrated setting, the basic team will most likely include the early childhood educator, early childhood special educator, speech pathologist, and teaching assistants. Depending upon the needs of individual children, other team members may include the physical and occupational therapist, and adaptive P.E. teacher. It is necessary for team members to make every effort to plan a regular meeting, at the very least once a month, to ensure that children with disabilities are demonstrating positive outcomes in the integrated preschool setting.

Planning the Elements of the Daily Schedule

The planning process should also include organization of the physical environment in terms of the schedule of activities, transitions, and staff responsibilities within activities to ensure the program runs smoothly. Although the daily schedule should remain predictable in order to help children acquire inner organization and independence, special occurrences may arise which will alter the routine. Team members need to be aware of how this may affect certain children and be prepared to accommodate accordingly. Transitions may also need to be individualized for certain children in terms of positioning children with physical disabilities or assisting children who have difficulty following the routine. To ensure that children's needs are being addressed, during planning the team should delegate responsibilities including preparation and gathering of materials, conducting small and large group activities, and facilitation of skillsand interactions during free play

in interest areas. Because related services (e.g., speech-language pathology, occupational therapy, physical therapy) are more appropriate when delivered in the classroom setting, these personnel should be available to work with children within the context of daily classroom activities. For example, the occupational therapist may facilitate the development of motor skills in children while playing post office in the housekeeping area. The speech pathologist can help to facilitate social and communication skills in the context of a story activity. Also, by being aware of children's individual objectives in the various skill areas through the planning process, team members can complement each other by reinforcing these skills.

Planning for Group Activities

The team must use the planning process to create opportunities for children to participate in group activities according to their individual interests, needs, and abilities. For example, when planning a small group activity, the team must take into account the individual objectives for each child. In the context of a cooking activity, some children may be learning to take turns while others are learning to make requests. Team members must also determine the level and types of cues and prompts individual children will require. For children with physical disabilities, it is important for the team to decide how children will be positioned to increase independence and participation at their individual level. During group activities, whether small or large, it is important for children to participate more than adults. In many respects the success of an activity can be assessed relative to the degree of adult participation required. The most successful activities typically include those in which adult direction and participation is minimal and child direction and social interaction is maximal. When planning group time, it is also important to look at individual children in terms of the amount of time spent in structured group. Although the maximum time for typical preschool children is 15 minutes, some children with disabilities may not be able to initially stay with the group for more than 5 minutes. Team members should take this into consideration when planning in order to provide alternative activities or options for these children.

Planning Structured Free Play

During the planning process, the team must prepare the environment to encourage active exploration in children during the free play period. Although somechildren can choose an activity

and follow through to the end, other children may require more adult assistance in order to choose and engage in activities. The staff should use the planning process to create cognitive, communicative, socio-emotional, and physical learning opportunities across interest areas (i.e., blocks, housekeeping, etc.). For example, within the block area, available activities might range from stacking blocks to encourage turn taking to more complex activities such as building a house with the large, cardboard blocks for role-playing. When choosing the materials to be included in each interest area, the team must look at individual children's interests and abilities, as well as the range of functions a given set of materials can serve. For example, the library area should include a variety of books which range from simple picture books to more difficult books which provide simple plots about familiar experiences. Puppets and props can also be available for children to act out stories.

Instructional Integration

For young children with disabilities to be successfully included within the integrated setting, they must have the opportunity to participate in regular class activities. However, certain modifications in the structure of activities and teaching strategies may be necessary to ensure full participation and success in children. Because children's levels of acquiring skills are higher when involved in active engagement, teaching strategies that are responsive to children's actions and integrate therapy and education, are more appropriate in addressing individual needs and learning styles. Children are more able and motivated to learn when the content is meaningful and relevant, and skills should be taught in their naturally occurring contexts. Through careful structuring of the physical environment, teachers are able to promote experiences that allow children to learn skills. By structuring the learning environment and utilizing more intensive and systematic teaching strategies, teachers will increase the likelihood that children with disabilities will learn within the context of regular preschool experiences.

Arranging the Environment

Before implementing instruction, teachers must examine what skills individual children need to acquire to increase participation and what changes will be needed in the environment for learning to occur. For example, if the teacher wants children to learn to make requests for food during snack

time, providing limited portions will create the need as well as increase opportunities to make requests. For children with disabilities, it is important that they are given multiple opportunities to practice a skill, however, these opportunities should be as natural as possible. For example, its not appropriate to ask a child the same question "What do you want?" five times after they have already answered the question when first asked. Nor is it natural for the adult to prompt the child to respond by saying "Tell me, I want a cookie". Instead, it would be more appropriate to employ the sabotage strategy of limiting portions of food and then modeling "Cookie, you want a cookie?" when the child reaches out his hand. By employing this teaching sequence numerous times, opportunities are increased for the adult to model the target phrase as well as for children to makes attempts at communicating.

Planning Individualized Group Instruction

The use of individualized group instruction is necessary in order to address the varying range of individual needs, levels, and interests of children during group activities in the inclusive setting. Although teachers are able to facilitate learning in typical children during group activities with less preparation, specific modifications based on individual children's levels will be necessary to facilitate participation in children with disabilities. When planning group activities the teacher must first structure the activity by establishing a regular routine for the children to follow such as first singing a greeting song and then allowing a child to choose a song for the group to sing. Next, the teacher must decide children's individual goals within the components of the routine. It will also be necessary for the team to determine the level of prompts and cues necessary to facilitate participation and learning of individual objectives. For example, some children's goals will be to imitate a sequence of motor movements when given partial physical assistance during a music and movement activity. Other children's goals may be to take a turn telling others what to do when provided with a choice modeled by the teacher such as "Do you want us to clap hands or turn around?" During group activities, teachers must make sure the necessary modifications are made to ensure that all children are either active or partial participants with very little "down" time.

For children with severe disabilities, intensive and very specific modifications in the activity may be necessary to ensure their participation. Examples include the use of adaptive equipment for

positioning to facilitate independence and incorporating therapeutic methods for managing children's muscle tone and atypical patterns of movement. During planning and classroom activities, it is important for the physical and/or occupational therapist to provide the necessary information and demonstrations to teachers that will allow them to maximize these children's participation in activities in the most natural way. In other words, it is more appropriate for the therapist to provide information on how to position children so that they may access a material for painting during a small group art activity as opposed to taking them to a corner in the room to provide "therapy". All children with communication impairments should have a designated form of communication (i.e., sign language, picture board, or technological device) which is used to interact with others. For children with sensory impairments such as a visual or hearing impairment, it may be necessary to modify how directions or instructions are given and make adaptations in materials and task requirements. It is the responsibility of the particular related service professional to train teachers in how to functionally use adapted devices or aids within the classroom setting.

Facilitating Strategies

The context for learning must be structured to increase children's opportunities to participate as successfully and independently as possible. The classroom experience provides a context for learning through routines, transitions, high structure activities, and low structure activities (Bailey & Woolery, 1992). Prior to implementing instruction, it is important for the teacher to assess the environment to determine what activities would be appropriate for learning and what objectives will be targeted for individual children within the chosen activities. Next, the teacher must decide how to structure the activity by arranging the environment and providing the necessary levels of cues and prompts to ensure children will participate to the fullest extent possible.

Routines

The use of routines such as arriving and departing class, clean-up, etc. occur in the classroom quite frequently and allow opportunities for teaching independence and many other skills (i.e., communication, social, motor, etc.). When children arrive at school for example, the teacher can either take their jackets off, put them away, and hang up their backpacks or allow children to participate at whatever level they are able. For some children, the principle of partial participation

(Baumgart et al, 1982) will need to be applied. For example, children with physical disabilities may be able to independently request assistance in taking off their jacket however, it may be necessary for the teacher to assist in the motor portion of the routine.

Transitions

Transitions involve completing an activity, moving to the next activity, and starting the new one. Transitions occur between structured and unstructured activities such as circle time and walking to the bathroom, between unstructured times and structured times such as washing hands and snack time, or between unstructured activities such as moving from one interest area to another during free play. It is important for children to learn to transition as independently and quickly as possible. By providing natural cues and prompts, teachers can guide children in moving between activities in increasingly independent ways. For example, the teacher might cue children by saying "First we're going to sing a song, then we will go outside". Providing children with a warning allows them to prepare for change. Using songs to focus children's attention also helps to ease transitions. During transitions all children should have an independent or partially assisted form of mobility for use in moving around the classroom and between the classroom and other school areas (i.e., bathroom, playground, etc.). For children with physical disabilities this may involve the use of adapted equipment such as wheelchairs, motorized cars, or scooter boards. In addition, individualized procedures should be used by all staff when transitioning children who require lifting or carrying. When transitioning children who require physical assistance, it is important for adults to let them know what is going to happen such as "Ryan, I'm going to pick you up. Then I'm going to take you to the blocks" before they are moved.

High Structure Activities

High structure activities are usually times when teachers take the lead and direct the activity such as circle time, storytime, or small group experiences. Highly structured activities should be designed for learning to occur through activities which allow children to participate as much as possible. Teacher reliance on a multitude of directives (e.g., "put it here") and questions (e.g., "What's this?") may have detrimental effects on learning. Learning will be maximized through teachers' use of more naturalistic conversational techniques. For example, by commenting "You're

stirring the Kool-Aid, You're pouring the water, etc.", children learn to make the connection between words and actions, as opposed to when constantly asked, "What are you doing?". During activities, teachers should encourage creative thinking in children by allowing them to express their ideas. Active participation of children at their individual levels can be accomplished by modifying the activity requirements or using adapted material or devices when necessary. Children with communication impairments for example, may use a communication device in the activity for turn taking and initiating requests and commands. Children with physical disabilities may require specific adaptive equipment for positioning to facilitate independence and participation as well as partial physical assistance in manipulating materials such as stirring with a spoon.

Low Structure Activities

Low structure activities are usually child directed in that children choose what they will do, how they will do it, and how long they will participate. Examples of low structure activities include free play in interest areas, outdoor play, and snack. During free play it is necessary for staff to make activities available that encourage choice-making, independent interactions with materials, and social interactions among peers. Children should be encouraged to regularly make choices and decisions regarding their play. By having children make a plan prior to free play, teachers provide an opportunity for children to verbally express themselves and see themselves as able to act on their own decisions. For children who are unable to communicate effectively, a picture symbol communication board offering choices representing areas of the room, objects, and peers may be utilized to help children make choices either through pointing or using single words or phrases. By arranging and equipping the physical environment within an organized framework, children are able to develop independence in choosing, obtaining and returning materials. Once they are engaged in an activity, the teacher can follow their lead and take advantage of opportunities to facilitate learning through the use of naturalistic teaching strategies such as modeling.

Child-initiated play activities do not always provide multiple opportunities for practicing skills and it may be necessary for the teacher to structure the environment to allow for practice. For example, if children are putting on clothes in the housekeeping area, the teacher may encourage the idea of going to the store and trying on different clothes. This will allow the teacher to provide

multiple opportunities for children to practice dressing skills. The teacher, by participating in the activity, can model appropriate language, social, and self-help skills. Social interaction skills among children can also be encouraged during free play activities through the use of group activities such as art projects or playing house in the housekeeping area. For example, during an art project the teacher can limit materials to encourage children to take turns, make requests for sharing, and respond to others requests for obtaining materials. While playing house, teachers can use prompts and cues to encourage interactions with peers. Upon observing a child cooking foodon the pretend stove, the teacher might prompt the child by saying, "Mm that looks good. Who is going to eat it or Let's have Joseph taste it." Through the use of frequent cues and prompts, the teachers can help expand and maintain the interaction.

Physical Environment

The physical environment of the classroom setting plays a major role in enhancing growth and learning in children through active exploration and interactions with the environment. Through careful arrangement of the environment children are better able to actively choose materials to initiate play independently as well as encourage interactions among others. When designing the physical environment, teachers should take into account individual children's interests, needs, and abilities.

Structuring the Physical Environment

The physical environment should be arranged into clearly-defined interest areas, which in preschool classrooms typically include blocks, housekeeping, art, manipulative, library corner, and sand and water. By dividing areas with low shelving units, etc., teachers are able to supervise while children are able to clearly view their options for play. Materials should be well organized and stored on low shelves accessible to children. Shelves and storage bins should be clearly labeled to assist children in putting materials away independently. A variety of labels which work well with young children include the use of real objects (i.e., small cubes) glued to storage bins, pictures, photographs, or silhouettes of materials. Written labels should also be paired with pictures to encourage literacy skills in children. For children who may be just beginning to walk, teachers should be sure to store appropriate and interesting toys on the bottom shelf to encourage active

exploration and independence. Modifications for arranging materials may also be necessary for children with physical disabilities and must vary according to their individual motor capabilities.

Providing a Selection of Materials

The materials available in the classroom should reflect the individual interests, experiences, and abilities of individual children. Through daily observation, teachers can determine what types of toys interest individual children. Teachers should also make sure that a variety of materials are available to address different levels of development so that children can play together. In the block area, for example, the teacher can encourage some children to push cars and trucks on the city carpet mat while others build bridges and additional buildings. Materials should also be selected according to what skills they help to facilitate. Whereas a rocking boat can encourage social play among children, puzzles promote problem-solving skills. Materials closely related to children's personal experience should also be available. Most teachers have found the housekeeping area to be most successful because the materials provided are similar to the materials children have been exposed to at home. Through conversations with children, teachers can determine experiences which may have particularly interested them. For example, the housekeeping area changed to represent a grocery store would give children the opportunity to interact with materials such as plastic food, empty food boxes, cash register and money, grocery baskets, and paper bags. Whereas some children will develop the ability to work the toy cash register (i.e., sorting by color), others can develop the ability to sort materials by weight when putting groceries in the paper bag.

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APPENDIX G

QUALITY INDICATORS – ITEMS BY CLASSROOM ACTIVITIES

YEAR IN PROJECT: 1994-95

SCHOOL/SCHOOL DISTRICT: Yearly Summary

Four classrooms / four schools / four school districts

	Project Staff Assessment		Classroom Team Self-Assessment	
AREAS	INITIAL Percentage	FINAL Percentage	INITIAL Percentage	FINAL Percentage
OPENING/CLOSING	57.5	86.25	68.67	84
SMALL GROUP ACTIVITIES	41.5	85.5	62.33	93.67
LARGE GROUP ACTIVITIES	53	78	64.67	86.67
TRANSITION	64	73	82	88
SNACK	64.5	93.75	61	100
TOILETING	100	100	100	94
CHILDREN WHO REQUIRE ADULT ASSISTANCE	36.75	77	48.5	81.3
TOTAL	51.5	82	65.67	87.67

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YEAR IN PROJECT: 1995-96

SCHOOL/SCHOOL DISTRICT: Yearly Summary

Five classrooms / four schools / four school districts

	Project Staff Assessment		Classroom Team Self-Assessment	
AREAS	INITIAL Percentages	FINAL Percentages	INITIAL Percentages	FINAL Percentages
ENTERING/ LEAVING	83.3	69.67	58.5	80.67
OPENING/CLOSING	72.2	86.75	73.6	82.67
SMALL GROUP ACTIVITIES	60.3	65	55.5	59
CENTER-BASED ACTIVITIES	60.5	79.25	59.67	75
TRANSITIONS	53.8	70.75	55.25	60
SNACK	40.75	62.25	50.5	78.67
TOILETING	45	90	61.25	95
CHILDREN WHO REQUIRE ADULT ASSISTANCE	66.4	80.25	68.4	84.67
ITEMS NOT OBSERVED ON VIDEOTAPE	63.67	74.67	66.4	78
TOTAL	60.8	76	63.8	73.3

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QUALITY INDICATORS – ITEMS BY PRACTICE CATEGORY

YEAR IN PROJECT: 1994-95

SCHOOL / SCHOOL DISTRICT: Yearly Summary

Four classrooms/ four schools / four school districts

	Project Staff Assessment		Classroom Team Self-Assessment	
AREAS	**INITIAL** Percentages	**FINAL** Percentages	**INITIAL** Percentages	**FINAL** Percentages
FAMILIY-CENTERED SERVICES	87.5	100	73.3	100
SOCIAL INTEGRATION	19.75	75	54.3	86.3
CHILD OUTCOMES	50	100	58.3	94.3
MANAGEMENT OF BEHAVIOR	79.67	89.5	85.67	84.3
CURRICULUM CONTENT	67.5	81.5	76.67	88.67
PLANNING	61.75	88.25	78	91.67
INSTRUCTIONAL INTEGRATION	36	76.25	41	92
FACILITATING STRATEGIES	58	81.5	67.3	87.3
PHYSICAL ENVIRONMENT	56	82	73.3	89.3
ASSISTIVE TECHNOLOGY	31.25	75.5	39.67	89
TOTAL	43.25	79.25	59.3	88

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YEAR IN PROJECT: 1995-96

SCHOOL / SCHOOL DISTRICT: Yearly Summary

Five classrooms / four schools / four school districts

	Project Staff Assessment		Classroom Team Self-Assessment	
AREA	INITIAL Percentages	FINAL Percentages	INITIAL Percentages	FINAL Percentages
FAMILIY-CENTERED SERVICES	80	95	82.6	89.3
SOCIAL INTEGRATION	39.2	60.3	42.6	57.67
CHILD OUTCOMES	56.67	80	66.6	71.67
MANAGEMENT OF BEHAVIOR	66	86	81.4	62.67
CURRICULUM CONTENT	79.6	100	74.2	86
PLANNING	63.2	77	64.6	70.67
INSTRUCTIONAL INTEGRATION	67.2	89.67	65.2	79.67
FACILITATING STRATEGIES	59	83.67	60	74
PHYSICAL ENVIRONMENT	58.8	93.3	74.2	77
ASSISTIVE TECHNOLOGY	44.8	74.3	43.4	57.3
TOTAL	59.4	82.3	63.2	71

APPENDIX H

SUMMARY OF QUESTIONNAIRES

- Sent to 149 participants in the Fall of 1999
- Received 28 completed questionnaires (2% response rate) from years as follows:
  - 1998-99: 14
  - 1997-98: 3
  - 1996-97: 4
  - 1995-96: 5
  - 1994-95: 2

ASSISTIVE TECHNOLOGY TRAINING

QUESTION: Have you attended any assistive technology trainings (e.g., workshops, meetings, conferences, etc) within the past 5 years? If yes, please list the number of approximate hours.

	1999	1998	1997	1996	1995
Number of Different Topics (e.g., adaptive play, literacy and AAC, specific device workshops)	17	20	9	6	4
Number of People Participating in Additional Assistive Technology Training	8	11	8	4	4
Total Number of Training Hours	106	127	90	40	32
Average Number of Training Hours Completed Per Person	13.25	11.5	11.25	10	8

CLASSROOM ACCESSIBILITY

QUESTION: List 8 ways that you make your classroom accessible to all students.

See table beginning on following page.

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Area of Assistive Technology	Methods of making classroom accessible
Computer access	▪ Make computer accessible to all with assistive technology ▪ Computer, with "Mind Mouse" software ▪ Use computer programs/software – stories, shapes, & numbers ▪ Have computer in room for easy access to Boardmaker & software for students ▪ Varying levels of computer access and software options ▪ Switch access software ▪ Alternative keyboards: IntelliKeys, switches, touch windows, big keys keyboard, key guards ▪ More use of IntelliKeys and all its capabilities ▪ Have different mice to use on computer for different needs & developmental levels ▪ Have inexpensive computer toys to interact with ▪ Guard to cover keys for keyboards so droolers can use keyboards
Adaptive play	▪ Use switches for toys, music, computer, group activities, etc. for those with limited motor skills – variety of switch activated toys, switches & battery interrupters ▪ Adaptive materials to allow access to materials – paint brushes, play materials, scissors, pencil grips, toys, playboards, grasping aids, easels, add handles to puzzle pieces ▪ Adapt toys (physically or environmentally) to increase participation ▪ Different types of scissors, crayons, paintbrushes, etc. ▪ Low tech adaptations to materials for physically impaired ▪ Adapt books so that pages could be turned easier as well as making books with interactive parts the students could manipulate – page fluffers & waterproofed pages for books for droolers and kids who have a hard time turning pages ▪ Have variety of toys for all levels/physical capabilities ▪ Have materials and time readily available for adapting existing materials and toys ▪ Electrical control unit for activities (blending, mixing, paint-spinning) – use PowerLink for cooking activities and other tasks involving electric equipment ▪ Adapted playground equipment so all children have access to outdoor - Barrier free playground equipment
AAC	▪ Use placemat and choice boards during snack ▪ Have pictures for pointing – use of pictures/icons in circle activities ▪ Place familiar icons several places around the room ▪ Communication boards for all activities / each center ▪ Low tech communication devices for easy programming for use in centers and circle time ▪ Symbol & tapes to enhance communication ▪ Use symbols for choice making for all kids (centers, songs, etc.) yet tailor it to individual needs/abilities–field of 2,4,etc., activity specific ▪ Sign language ▪ A variety of high/low tech communication board/devices ▪ Use a flashlight to highlight words on communication board while I speak ▪ Use of low-tech boards, devices, signing & talking to promote different forms of communication ▪ Voice output devices to direct or participate in activity – SuperHawk, SpeakEasy, BigMac ▪ Addition of more sophisticated voice-output communication devices ▪ Use of assistive devices throughout the daily routine rather than isolated, planned activities ▪ Use song and vocabulary stimulation boards in all applicable areas ▪ Use tape recorders, loop tape devices, computer programs & books for songs & stories ▪ Record songs done routinely on step-by-step communicator for those students who need it to participate ▪ Use assistive technology (cue cards) ▪ If necessary, use sound boards or button devices

Positioning and Seating	• Proper positioning for all students, lying, sitting on the floor, standers, chairs, etc., using equipment to facilitate – adaptive equipment for optional positioning • For my non-walkers have a stander during art & fine motor activities • Floor activities for non-ambulators • Positioning equipment - customized seating systems, floor sitters, prone standers, powered wheelchair • Provide appropriate seating (support, table height, etc.) for activities
Environmental Adaptations	• Remove physical barriers as much as possible - wide doorways, one level, rails/ramps to help for stairs, physically open up pathways/areas for freedom of movement, open up the centers and make them larger (& fewer) • Easily accessible centers (simple floor plan) wide enough path for wheelchairs, walkers, canes – enough space for all children to have access to activities • Have picture schedules, choice boards, toys accessible to all students by putting them in easy to reach positions • Put items within reach and/or sight (for requesting) – a variety of heights • Low level tables, toys, shelves, chairs, work stations – including computer area • Sinks, desks, toilets, changing table, etc. at proper height • Different types of chairs - bean bags & cozy chairs at circle for those with poor trunk, stable chairs that can be climbed into, different seating at circle (chairs, corner seats, therapy balls) • Appropriately sized chairs for support for those with cerebral palsy – velcro straps if necessary. Individualize for each student! • A richer outdoor environment to include multiple opportunities for students with severe motor impairments such as ramps, adaptive swings, and more communication boards than currently available • A swing, from the ceiling for SI students • Stools and adapted handles at sink - adapted handles (larger) to help those with poor dexterity • Remove visual or auditory distractions - keep clutter to minimum for visually impaired students and don't change room – a set arrangement for all furniture • Room labeled with symbols or pictures - label areas/centers/materials/location of toys with picture symbols/words • Enlarged pictures and print (visually impaired) • Communication choices at each activity (on mat, on books) -have symbols all over the room for staff to grab for choices, comments, more, finished, etc., & for kids to reach • Use large felt board during story time, so kids can become part of the storytelling • Dolls, books, puzzles, pictures that show children & adults with disabilities • Appropriate lighting - lighting, both natural & artificial, to accommodate different visual cues • Specialized equipment to give children chance to interact with their environment and to facilitate learning • Access as much adaptive equipment as needed by individual students • Mats - area for circle time, free play that is carpeted, smooth carpeting • No sharp corners on furniture • Age-appropriate toys/books • Cluster desks or have children sit around table • Provide a variety of seating options and manipulatives for group participation • Modify environment: dicem for non-skid surface; using bright colors for visually impaired • Engineered environment – wheelchair accessible, appropriate symbols/choices/switches at each center • Different areas designated by differently colored tape

Training	• Training time for classroom aides • Inservice staff and families regarding use of AT and its goals • Consult with OTs and PTs • Attend training sessions to assist me in knowing ways to make the classroom more accessible
Peer Models or Inclusion	• Adapt activities so that all have a part, according to individual needs, match variety of developmental stages • Modeling of activities, communication and language by peers and adults • Provide opportunities for peer modeling • All children participate in activities at their level • Provide peer support/partnership • Give each child a way to communicate • Include all students in activities • Variety of open-ended activities/materials/centers so all children can participate • Variety of ways to participate at circle (puppets, singing, using instrument, movement, dancing) so all children can participate
Miscellaneous	• A large closet for storage • Have variety of choices available in the day • Provide adult assistance as needed • See abilities, not limitations • Adults who are positive about people with disabilities and focus on what children have in common and positive traits while frankly discussing disabilities in language children can understand • Include verbal cues and pairing with visual cues • Use verbal language • There should be similar modes of communication available to all students • Incorporate more opportunities for sensory integration activities within the daily routine • Tap on objects that make noise or are visually appealing • Sensory input

SHARING ASSISTIVE TECHNOLOGY KNOWLEDGE

QUESTION: Please place a checkmark (√) beside each example of ways in which you may have shared your assistive technology knowledge with others. Check all that apply.

Methods of Sharing Assistive Technology Knowledge	*# of Responses*
Formal/Informal discussion with colleagues	26
Sharing materials and resources	26

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Advocating for assistive technology use in the classroom for specific students	24
Carry-over of knowledge about assistive technology within your classroom from year-toyear	22
Parent-Teacher conferences	21
Staff development training	18
Member of an assistive technology team	15
Input into school district policy and procedures for assistive technology needs	12
Direct line of communication with administrators regarding assistive technology	11
Designated as an assistive technology liaison in the school district or workplace	6
Open house in classroom or workplace	6
Lending device to families so they can try it out and gain competence using a device	1